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FIFTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION

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VOLUME I **UNIFORMED SERVICES** **RETIREMENT SYSTEM**

JANUARY 1984

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A. Quadrennial Review of Military Compensation is required by Title 37, U.S.C. 1008b. The Fifth QRCM was directed by President Reagan in his August 17, 1982 letter to Secretary Weinberger. This volume is part of a multivolume report that includes an Executive Summary, Volume I, IA, IB, IC, II and III.

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Volume I of the multivolume report of the Fifth Quadrennial Review of Military Compensation (Fifth QRCM) addresses that portion of this Presentially convened, legislatively mandated assessment of the Military Estate Program and active duty Special and Incentive pays, conducted in 1983 and early 1984, that dealt with the Uniformed Services retirement system.

In the analysis, the value of total compensation to the servicemember, in FY82, was used as a point of reference. First, the history and implementation of the various retirement benefits were reviewed in detail. Previous studies and resultant proposals to change the retirement system were thoroughly examined. Then, any proposed changes in compensation were assessed by evaluating their ultimate impact on force structure, related force effectiveness and resultant costs. Particular attention was focused on the system's effectiveness as a general long-term force management tool that must attract and retain the high-quality career force essential for our national security as well as support the development

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of a ready pool of reserve manpower for immediate recall. In a substantial portion of this analysis, alternatives to the existing retirement system were developed and evaluated. An additional focus was placed on the consideration of how the retirement system assists in the transistion of servicemembers to the private sector upon retirement, and to extent to which it provides adequate compensation when they later reach old age. An extensive study of post-service earnings of all veterans (both retired and separated) was conducted especially for this effort.

The volume contains a statement of the concepts and principles of Uniformed Services compensation, a detailed description of the computer modelling techniques employed, and a comprehensive discussion of the groups' findings and recommendations for change. The information in this volume is presented in such a manner that it is understandable to the average reader yet technically correct and highly revealing to the econometrician.

FIFTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION



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VOLUME I ***UNIFORMED SERVICES*** ***RETIREMENT SYSTEM***

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DEPARTMENT OF DEFENSE
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PREFACE

The Nation and its leadership have a responsibility to the men and women in uniform. Without adequate numbers of high-quality personnel, our defense structure is powerless, our sophisticated and expensive equipment useless. Numbers alone, even of the highest quality, are not enough. Our mission readiness and national security rely on the loyalty, dedication, and proper leadership of this professional manpower force. We must be ready to give them the honor and respect that is truly theirs. Compensation is but a part of our appreciation and the overall system of Uniformed Services compensation must be configured to contribute to the mission readiness that is essential to supporting our national security objectives. To assess the effectiveness of the current military compensation system to achieve this goal, the Fifth Quadrennial Review of Military Compensation (Fifth ORMC) was organized in September of 1982. The Fifth ORMC was directed to focus attention on the retirement system, its associated benefits, and the special and incentive pay system.

The Fifth ORMC complies with Title 37, United States Code 1008(b). The code requires a complete review every four years to examine the principles of the compensation system and to evaluate their implementation in compensation provided to Uniformed Service members.

President Reagan designated the Secretary of Defense to be his executive agent for the review; he, in turn, instructed the Assistant Secretary of Defense (Manpower, Reserve Affairs & Logistics) (ASD(MRA&L)) to conduct it. On October 1, 1982, a technical staff was officially assembled with members, either full-time or advisory, drawn from all the Uniformed Services. To provide overall policy guidance and to review the study efforts, a Steering Committee was formed. This was composed of the Assistant Secretaries for Manpower from the Military Departments, the Deputy Assistant Secretary of Defense (MRA&L) (Military Personnel and Force Management) (MP&FM), the seven Uniformed Service manpower and personnel chiefs, and the Director, J-1 (Manpower and Personnel) Office of the Joint Chiefs of Staff. The ASD(MRA&L) chaired the Steering Committee, with the DASD (MP&FM) serving as the deputy. The scope of the activities undertaken by the Fifth ORMC can best be understood by reviewing this and related volumes of the final report. The subsequent paragraphs describe the conceptual reference of the work, as well as resources, data sources and analytic approaches used.

In the analyses, the value of total compensation to the service member, in Fiscal Year 1982, was used as a point of reference. First, the history and implementation of retirement benefits, pays and incentives were reviewed in detail. Previous studies and resultant proposals to change the retirement system were thoroughly examined. Then, proposed changes in compensation were assessed by evaluating their ultimate impact on force structure, related force effectiveness and resultant costs.

Analysis of the retirement system focused primarily on its effectiveness as a general long-term force management tool, which must attract

and retain the high-quality career force essential for our national security, and support the development of a ready pool of reserve manpower for immediate recall. In a substantial portion of this analysis, alternatives to the existing retirement system were developed and evaluated. An additional focus of this analysis was a consideration of how the retirement system assists in the transition of service members to the private sector upon retirement, and the extent to which it provides adequate compensation when they later reach old age.

The individual Services provided the force structure data which formed the baseline against which to assess the effectiveness of the retirement system and the special and incentive pays. These data were constructed in a steady-state mode, using established career field and skill level requirements, and the Fiscal Year 1982 manpower level ceiling. To permit detailed analyses, the data were provided at pay grade and year of service levels of disaggregation. Finance and personnel records, both in the form of automated data and special, subject-specific reports were also provided by the Services. Civilian earnings data were obtained from the Bureau of the Census, Internal Revenue Service and the Social Security Administration. These data formed the basis for comparisons of military and civilian earnings.

Numerous Federal agencies, professional associations, labor organizations, consultants and businesses in the private sector, and professional researchers, were contacted in the course of the work. They provided invaluable data, shared their experiences in understanding similar issues and often supplied a judicious, critical perspective on our task.

The Fifth QRMCM benefited from its access to individuals, both on its staff and in consultative capacities, capable of using many different analytical techniques. Statistical modeling, trend analysis and cost/benefit analysis, among others, were employed in the course of the review. The steady-state personnel flows of alternative force structures, together with the associated costs (i.e., maintenance, special and incentive pays, gains, losses, and retirement) were evaluated using a modified Defense Officer Personnel Management System (DOPMS) Model entitled Defense Manpower Static Model (DMSM).

A new and significantly enhanced version of the Annualized Cost of Leaving (ACOL) Model was developed to evaluate retirement system alternatives. It allows for careful examination of the implications of change for all Services, officers and enlisted personnel, as well as for broad occupational and quality groupings, under varying economic assumptions. Results from the modified ACOL were linked to both the DMSM and to the DoD Actuary Retirement Valuation Model (GORGO) to establish resulting alternative force structures and to calculate the force costs, retirement costs and make retiree projections. These results provided the Fifth QRMCM with the capability to consider, realistically, force structure and cost issues which would result from the proposed changes to the retirement system.

The associated benefits which encompass the Government-provided estate program were also analyzed. These benefits include Death Gratuity, Burial Expenses/Burial Flag, Dependency and Indemnity Compensation Survivor Benefit Plan, Servicemen's Group Life Insurance, and Social Security. Each benefit was evaluated independently for adequacy and then integrated into the full range of the Estate Program of the Uniformed Services to insure against overlap or duplication of purpose.

The assessment of the current structure of special and incentive pays concentrated on their effectiveness as specialized short-term management tools, which must attract and retain personnel in highly technical occupations (critical skills), as well as those working in hazardous or undesirable conditions.

These pays were reviewed by weighing their suitability in meeting stated or legislated goals against their costs. The reviews included examination of the military's competition with the private sector for critical skills, and of private sector parallels for financial incentives paid to individuals working in hazardous occupations. The complete special and incentive pay structure was examined for internal consistency and cost effectiveness. Several issues related to special and incentive pays required special attention; these were the payment of multiple pays, the utilization and role of pays in wartime, and the relationship between pays and force quality considerations.

This report represents the final product of the Fifth QPMC. In addition to fulfilling its defined mission, the Fifth QPMC sought to improve compensation system management, proposing changes which will better serve our total and full commitment, and to provide a solid starting point for future reviews. This additional task took the form of archiving extensive documentation, and making provisions to maintain and update analytic models and associated data bases developed in the course of the work. These data are fundamental to any future review of comparable scope.

This review could not have been completed without the tremendous spirit of cooperation, and commitment to fair and open review, that was shown by the Uniformed Services and the many assisting agencies and individuals. A very difficult and complex job was made manageable and productive as a result of their efforts. The true results of the work reported here can be achieved only through acceptance of the recommendations, and subsequent willingness to work towards the passage and implementation of relevant legislation and force management policies.

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American Medical Association
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Association of Diving Contractors
Association of Naval Aviation
Bureau of Labor Statistics
Central Intelligence Agency
Combat Pilot's Association
Commuter Airline Association of America
Congressional Budget Office
Control Demolition Corporation
Council of Economic Advisors

Defense Technical Information Center
Delta Airlines, Inc.
Department of Energy
Department of Labor
Department of Transportation, Maritime Administration
Drug Enforcement Agency
Eastern Airlines, Inc.
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Federal Aviation Association
Federal Bureau of Investigation
Forest Service
Future Aviation Professionals of America
General Accounting Office
General Motors
General Research Corporation
Helicopter Association, International
Institute for Nuclear Power Operations
International Brotherhood of Electric Workers Union
Jet Research Center, Inc.
Library of Congress
Mary's Help Hospital
Metropolitan Police Department, Washington, D.C.
Montgomery County MD. Police Department
National Aeronautics and Space Administration
National Air Transportation Association
National Business Aircraft Associates
National Hansen's Disease Center
National Pilot's Association
National Science Foundation
Navy Personnel Research and Development Center
New York Bankers Trust
Northwestern University
Nuclear News
Nuclear Regulatory Commission
Oak Ridge Associated Universities
Occupational Safety and Health Administration
Office of Management and Budget
Office of Personnel Management
Piedmont Airlines, Inc.
Professional Pilot Magazine
President's Private Sector Survey Cost Control Group
REHAB, Inc.
Taylor Diving and Salvage Co.
Tennessee Valley Authority
United Airlines, Inc.
U.S. Marshalls Service
U.S. Secret Service
Veterans Administration
Virginia Electric Power Co.
Western Airlines, Inc.

I. SUMMARY.

A. PURPOSE. The fundamental purpose of the Uniformed Services retirement system, strongly supported by the Fifth QPMC, is to support and complement the manpower force management requirements of the Services in order to meet national security objectives. It is designed to help ensure that the following vital needs are fulfilled:

1. To maintain young, vigorous and mission-ready forces capable of operating efficiently both in peace and war by providing for a continuing flow of officers and enlisted personnel through the Services' required personnel structures.

2. To establish the choice of a career in the Uniformed Services as a reasonably competitive alternative by providing a measure of financial security after release from active or reserve duty (retirement) for servicemembers and their survivors.

3. To support a mobilization base of experienced personnel subject to recall to active duty during time of war or national emergency.

B. SCOPE. The current Uniformed Services retirement system consists of a non-disability retirement system for extended active duty of 20 years or more, a National Guard and Reserve non-disability retirement system for qualifying members of the Reserve Components, and a disability retirement system for active duty members and members on active duty for training who are determined to be unfit to perform the duties of their office or grade because of a physical disability. There is no vesting of retirement benefits for members of the Uniformed Services who do not meet the prerequisites for an immediate annuity, but there is a system of non-disability and disability severance pays to provide a lump-sum payment to certain members who are involuntarily discharged short of retirement eligibility. The system of severance pays is separate from the retirement system, although it is clearly integrated in terms of eligibility criteria. These payments assist the former members in readjusting to civilian life.

C. METHODOLOGY. This study of the Uniformed Services Retirement system and its associated benefits was intended to determine the extent to which the existing systems contribute to our national security and, on the basis of that determination, to recommend whether they should be preserved, strengthened, restructured or eliminated. Technical analyses of the existing system and an extensive number of alternative systems were conducted. The results of these analyses provided a sound basis against which to assess possible alternatives; several were selected as prime candidates for more extensive sensitivity analyses. This examination found that the current system can be restructured and strengthened to provide a stronger basis for force readiness.

D. OBSERVATIONS. In the course of evaluating the retirement system, the Fifth QRMC made a range of observations which will be summarized here. This should serve several purposes: first, to draw attention to those aspects of the current system which, with minor changes in policy or legislation, should be modified; and second, to provide a background for assessing the alternatives analyzed by the Fifth QRMC. In reading these observations, the fundamental purpose of the Uniformed Services retirement system should be kept in mind.

1. Principles. To address whether the Uniformed Services retirement system is effectively supporting our national security objectives, an understanding of specifically what it is intended to accomplish and an examination of its past performance was first required. The predominant criticism of this system over the past thirty years is that it has become too expensive. This criticism has focused on general aspects, such as an early retiree age with full benefits, full protection from inflation (indexing), its non-contributory nature, possible inequities to persons separating, and lack of coordination with social security. The basis of this problem has been known for some time but is generally ignored by the critics. It lies in the changes that have taken place since World War II in Service force management policies, in the size of the Uniformed Services which the United States has found necessary to maintain, and in the increases in the national inflation rates. In an evaluation of the current system, the basic principles and policies upon which it is based had to be kept in mind. The principles which support the Uniformed Services retirement system are compatible with and are a logical extension of the six basic principles of the total Service compensation system. These six principles, outlined in the Fifth QRMC Executive Summary, Section II, basically require the system to:

- be an integral part of overall force management;
- achieve economic and military efficiency;
- achieve equity;
- be effective in peace and war;
- have sufficient flexibility to adjust to supply and demand and the national economy; and
- provide a sufficient motivational basis for a full career.

There are three underlying principles of the Uniformed Services retirement system and associated policies. It must be:

a. Structured to Meet Defense Requirements. The system should be structured to meet legitimate defense requirements in support of our national security objectives. Out of this principle flows an appropriate policy premise that the retirement system is interrelated and inextricably linked with both the force management system and the compensation system.

b. Supportive to Service Force Management Requirements.

The retirement system should support and complement force management requirements of the Services. In this regard, the Service retirement system is similar to other retirement systems to the extent that each is structured to meet the objectives of an institutional or corporate entity. Overall requirements determine organizational objectives; objectives dictate personnel management requirements, which, in turn, determine the nature of a retirement system. Without commonality among organizational requirements, it does not logically follow that retirement systems must be similarly structured. Further, the retirement system must be structured to act as an incentive to each member to serve the maximum length career consistent with, and permissible by, Service requirements. The member should not be penalized if the requirements of the Services result in a mandatory retirement.

c. Integrated into the Compensation System. The system should be integrated into the Uniformed Services compensation system and be structured to meet an income replacement function as well as an income maintenance function acceptable to the Nation.

2. Background. As background to the present review, the Fifth QRMC considered legislative history, the results of previous studies and an examination of funding methods. Comparisons of the Uniformed Services retirement system to those of foreign militaries and the U.S. private sector were also made. In addition, the mobilization aspects of the system were assessed.

The legislative history clearly supports the primary purpose of the retirement system by providing consistent non-disability and disability retirement provisions integrated with selective personnel promotion policies. The last major legislative modification in this process was the Defense Officers Personnel Management Act (DOPMA). No comparable legislation has been needed or enacted for the enlisted personnel; Congress has chosen to have the Services manage them through their respective administrative and reenlistment policies. The intent of the Reserve Components retirement provisions, initiated in 1948, was to provide an incentive for their members to serve longer. The final and more recent legislative concern has been the increasing retirement cost. The post-retirement recomputation of retirees' pay based upon the new active duty pay tables gave way in 1963 to using the Consumer Price Index (CPI). This action was intended to reduce cost. In the process, the Civil Service and Uniformed Services systems were linked. The rising of the CPI has, in some years, caused the retiree adjustment to exceed the capped, active duty pay adjustments. Congress has actively considered limiting the post-retirement adjustments to less than the full CPI, again, as a means of reducing retirement costs. This current Congressional intent was integrated into the Fifth QRMC analyses because of its potential impact on future retention.

Nine major studies over the past 35 years have recommended changes to the Uniformed Systems retirement system. Although each study made different assumptions, several themes are common to all. In all

cases, the studies proposed to reduce benefits and implied that the current system was too expensive. While the First QRM (1967) did propose member contributions, all subsequent studies, including this one, have concluded that the system should be non-contributory. Most of the studies have proposed vesting, generally at about 10 YOS, but with the annuity deferred to a specified age (generally 60). While proposing different payment formulas, all studies assume severance pay for involuntary separation. Seven of the nine major study proposals include varying social security offsets. With the exception of the recent President's Private Sector Survey on Cost Control (Grace Commission), retirement benefits were assumed to be "grandfathered" and used the full CPI as an adjustment mechanism. It is important to note, however, that none of these previous studies have satisfactorily analyzed the impact of their proposed modifications on the Service manpower requirements.

There has been a significant growth in the non-disability retirement budget outlays over the past 30 years. The cost growth was not caused by any change in the officer/enlisted retiree mix (a higher percentage are enlisted personnel today); paygrade differences at the time of retirement (up slightly); life expectancy increases (will impact in the future); or the establishment of enlisted paygrades E-8 and E-9. The four primary causes, in the order of magnitude, have been:

- Inflation, which averaged 5% per year, caused 55% of the increase (\$6.6 billion);

- Wage growth (basic pay increases), which averaged 1% real growth per year, caused 21% of the increase (\$2.6 billion);

- A retired population increase of elevenfold caused 19% of the increase (\$2.1 billion); and

- Retired pay adjustments caused 5% of the increase (\$0.6 billion).

The growth rate of both the retiree costs and the retiree population have decreased and will continue to do so in the future, assuming a relatively constant size and distribution of the Total Force. Inflation, based on the assumption that the annual rate of inflation will be 5%, causes the dynamic dollar cost to rise. In fact, this inflation rate, used in the retirement cost calculations, doubles the normal cost percentage (from 25.85% to 50.71%). An examination of the individual servicemember cohort groups for both size and shape (annual continuation rates) revealed that there is no projected retiree bulge resulting from Vietnam similar to that from World War II and Korea. It does, however, along with other data, indicate a significant increase in the active enlisted continuation rates of the mid-1970's cohort groups. This is now causing a needed growth in the career forces (5-30+ YOS) and, if sustained, will eventually increase the current projections of annual retirees. It also must be controlled to avoid undesirable fluctuations in the "closed" personnel system force profile. The number of retirees

is already projected to rise slightly for enlisted personnel by the DoD Military Retirement System Projection and Actuarial Valuation Model (GORGO). The active officer population is relatively stable and projected to remain that way. The Reserve Components retiree population is still maturing and, thus, growing. A major part of the total retiree population growth, other than that from increased life expectancy, is from the Reserve Components. The personnel data base for reserve retirees is deficient and requires correction for more accurate retiree budget projections.

While an examination of the Service active force retirement trends presents a projected population and cost slow down in the growth rate over the next fifty years, there are several interesting additional observations that can be made from these data. First, the onset of the World War II eligibles, starting in FY60, of both officer and enlisted members is quite clear in the data. Second, the percentage of eligibles actually retiring increased until FY76; a surge occurred in the early 1970's when the manpower ceilings were reduced after Vietnam. Third, Service retirement stop actions, taken in FY62 (Berlin) and FY66 (Vietnam), are apparent in the data, as is the fact that very few voluntary retirement requests have been denied over the last two decades. Fourth, there has been a steady drop in the percentage of eligibles retiring since the mid-1970's, except in FY79 and FY80. This latter increase is generally attributed to the level of compensation dropping below what most servicemembers perceive to be necessary to satisfy their family responsibilities. Also, in FY79 and FY80, there were observable declines in the annual continuation rates throughout the force. The projections of the retiree eligible data now appear to be slightly overstated due to the decline, in FY82 and FY79, of both the number of new retirees and the percent retiring. This, of course, increases the projected percent eligible in the future years and the size of the career force as well. This latter effect is particularly useful in the enlisted force, because of the undesired shortage of members in the 10- to 20-YOS range within the overall enlisted force profile.

The Uniformed Services retirement system supports and maintains a flow of retirees into a recallable pool as a means of providing an immediate manpower mobilization base. A data examination suggests that there are, and will continue to be, between 750,000 to 775,000 active force non-disabled retirees under the age of 60, of which approximately 425,000 will have been retired less than 10 years. Factual data on the availability and utilization of retirees has been rather sketchy and retiree strength projection methodology is still not consistent throughout DoD. Problems include the development of consistent data on the number of retirees in several different categories used to define the retiree pool mobilization base. One classification and utilization problem concerns those who are classified by DoD as non-disabled; of these over one million active duty retirees of all ages, 25% (about 261,000) have an offset to their retired pay due to payments received from the Veterans Administration (VA) for disability. A National Defense University (NDU) retiree mobilization study, conducted especially for the Fifth QRM, reviewed Service plans and procedures for recall of retirees. Its

assessment found the Marine Corps program to be the most advanced and credible; the Army and Navy programs followed, in that order. The Air Force program was determined to be the least developed. The general NDU observation was that a higher degree of uniformity among the Services is required. A July 1983 Directive (DODD 1352.1) is intended to establish this uniformity.

Another National Defense University (NDU) study, conducted for the Fifth QRMCMC at JCS request, compared the Uniformed Services retirement system with those of six nations (Australia, Canada, the Federal Republic of Germany, Japan, Great Britain and the Netherlands). The study reached a number of broad conclusions:

a. The Uniformed Services retirement system of the United States is uniquely structured to provide manpower assets for national mobilization, unlike the comparison countries which do not maintain worldwide commitments.

b. Retired foreign military personnel, with the exception of the Federal Republic of Germany, are not mobilization assets.

c. The comparison countries are generally committed to a philosophy of democratic socialism in which military retirement is integrated into comprehensive state welfare programs, thus making comparisons of actual value extremely difficult.

d. Foreign military retirement systems are primarily designed to augment old-age pensions rather than to be multipurpose; i.e., recruitment and retention incentives, deferred compensation and current pay for mobilization recall.

e. There are minimal differences between the logic used in establishing eligibility requirements in the United States and in the comparison countries; however, specific details and compensation amounts vary widely.

A recent GAO review of foreign military retirement systems made a number of the same general observations as the NDU study. The GAO also found similarities between the components of those systems and that of the Uniformed Services. However, the details of these foreign systems are quite different and less favorable to the retiree than in the Uniformed Services. Both the NDU and GAO studies stated that comparisons are indicators of trends and concepts which could assist decision-makers in establishing realistic retirement system modifications.

Comparative analysis with private-sector old-age pension programs revealed that the Uniformed Services retirement system is between 1.2 and 2.0 times more expensive than the average of a large and varied sample of private-sector plans. This comparative analysis was based on data developed from the same funding methods, looking at each

system at at the same point in time, and using the same assumptions (economic, demographic, etc.) for all plans. A number of earlier comparisons conducted by other agencies were reviewed by the Fifth QRM, including those by the recent Grace Commission. All were found to be incomplete or flawed in their methodology and results. The most recent Grace Commission retirement proposal has an approximate normal cost percentage of less than 7%. This is significantly lower than the average comparable private-sector plan.

Additional Fifth QRM comparative work estimated the individual retiree's lifetime benefit. This work was based on the same assumptions stated by the Grace Commission; that the Uniformed Services retirement system should be better than the best private-sector plans, and that it was not appropriate to link it with, or compare it to, the Civil Service plan. The Civil Service plan was viewed by the Grace Commission as being comparable to the private sector, the Uniformed Services retirement system was not. For the same terminal salary levels (for the Services the measure was basic military compensation (BMC)) the servicemembers' lifetime retirement benefits for a 20-YOS retiree are about 30% higher than the 90th percentile private-sector retiree. The 30-YOS Service retiree benefits are about 15% higher.

The Fifth QRM review of the historical and current purpose of the Uniformed Services retirement system, along with an assessment of the performance of that system over the last thirty years, reveals that it has strongly supported its intended purpose. Rising costs, which are of continuing concern, were shown to be primarily the result of inflation, wage growth and a steep, one-time rise in the retiree population. Assuming a constant total force size, the rate of growth should significantly decrease. However, an inflation rate of 5 percent will keep retiree costs rising in consonance with all other costs within the economy, even though the real growth has been significantly reduced. It is clearly evident that the retirement system is a powerful incentive for a servicemember to continue for a full career. The strength of this pull seems to play a predominant role from somewhere between the 8th and 12th YOS depending upon whether the servicemembers are officer or enlisted and the skills or specialties in which they are serving. This is evident in both the active and reserve forces, except possibly for the enlisted reservist, whose survival rate to retirement is only 20% of that of the active duty enlisted member. Overall, the Reserve Components retiree population is still maturing. Although its cost is only about 10 percent of the total retirement costs, it requires a careful analysis, particularly if there will be any future redistribution of Total Force strengths. This is true not only for potential costs, but from the viewpoint of the overall balance and flow of people into the active and reserve forces needed to satisfy the total manpower requirements. The active and reserve retirement systems must be complementary, not competitive.

3. Method of Funding. The method of funding any retirement system can be characterized as either intergenerational (pay-as-you-go) or advance funding. The intergenerational funding approach charges a future generation of employees for the retirement benefits for current employees. The advance funding approach accounts for the cost of future retirement benefits during the working lives of employees. The Federal Government requires private-sector employers to use the advance funding approach for a very good reason -- a given organization may go out of business. When that happens, the employer should have developed a pension fund sufficient to pay off benefits earned to the date of termination. The Government also requires corporations to contribute annually to an insurance fund to cover cases of bankruptcy and default.

The current Uniformed Services retirement system is an inter-generational system. The FY83 cost, expressed as a percentage of the FY83 basic pay payroll of \$30 billion, was about 53% or \$16 billion. Beginning in FY85, the Department of Defense is required by Public Law 98-94, DoD FY84 Authorization Act, to fund Service retirement costs using the advance funding concept and an accrual accounting technique. The law did not require the Coast Guard, Public Health Service (PHS) or the National Oceanic Atmospheric Administration (NOAA) retirement program to use this new funding concept.

The use of an advance funding calculation (aggregate entry-age normal cost method), and an accrual accounting funding system, has the advantage of reflecting in current budgets the impact of manpower and compensation policy and force structure decisions on retirement costs. It also insures sufficient funds for making timely benefit payments, without the need for annual appropriations. A further effect is to avoid undue emphasis on immediate retirement benefit cuts that generate short-term savings. The FY82 normal cost percentages applicable to the basic pay for DoD and non-DoD Services are 50.7% for DoD, 40.9% for the Coast Guard, 55.5% for PHS and 65.6% for NOAA. The latter two Uniformed Services are composed only of officers.

4. Analysis. Despite a great deal of evidence suggesting that the retirement system is a powerful incentive in support of our national security objectives, meaningful and conclusive analysis of the relative efficiency of the system could not be undertaken using the past longitudinal population data and associated costs. To accomplish this required a prospective analysis using definitive statements of manpower requirements. These requirements, together with observed servicemember behavior and known conditions of service and compensation, had to be coupled with hypothetical changes in the compensation system to determine if the required manpower and mission readiness could be better obtained or obtained at less expense.

To review the current retirement system and any modifications to it in relation to national security objectives, it was imperative to view the Service manpower force structure as a total system. To measure the degree to which a change in the retirement system would affect

the force structure, all aspects of that structure (strength, gains, losses, experience distribution, etc.) and all costs (gain-related costs, maintenance costs, and loss-related costs, to include retirement costs) were evaluated. The Services specified how they would like to separate/continue people over a full career period. This was done in a steady-state mode for a Service manpower level fixed at the FY82 ceilings and configured internally by the Services on the basis of the previously established FY82 career field and skill level requirements. The grade structure for all cases of this analysis was fixed at that specified by current law and internal DoD/Service policies for both officers (i.e., DOPMA) and enlisted (i.e., specified "Top 6"). Fiscal Year 1982 was chosen as the benchmark year because it was the most recent year for which actual data existed. The quality of the QPMC analyses is to a large extent dependent on the quality of the data provided by the Services; i.e., the desired force structures.

The required Service manpower force structure was described by the total manpower strength and the strength distribution -- by grade, skill, YOS and community (officer, enlisted, warrant). The strength level was held constant at the FY82 levels as were the grade, skill and community distributions. The only element which varied was the year-of-service profile, or shape, of the force structure. This shape was determined by the retention rates of the personnel within the system. Retention rates, in turn, were related to the difference in compensation available by staying in the Service compared to leaving the Service for the civilian sector. While retention is a function of many factors other than just differences in compensation and few individuals make such a finite comparison of total earnings, previous studies have shown that the historic relationship between retention and expected compensation is sufficiently strong and consistent that it can provide a valid basis for these predictions. This relationship has been used by the DoD in recent years to support compensation requirements. However, like all models, the results should be used only as indicators of the magnitude, direction and relative ranking of alternatives.

To evaluate the many different retirement alternatives, an extensive network of computer models and support programs was constructed. These included the Defense Manpower Static Model (DMSM), the Annualized Cost of Leaving (ACOL) model, and the Military Retirement System Projection and Actuarial Valuation Model (GORGO). Beginning with Service steady-state force structures constrained to FY82 force levels, the models and their related interface programs proceeded through: (1) a calibration of retention to the current compensation policies; (2) projection of new force profiles in response to changes in compensation policy, i.e., retirement and or Special and Incentive pays; (3) development of new retention rates, promotion flow rates and loss rates necessary to support the new force profile; and (4) evaluation of total lifecycle costs of the force structure associated with the alternative compensation policies. The new force profiles were then compared with the base case force structure differences noted, and compensation adjustments made. The Fifth

QRCM has a high level of confidence in the ability of these models to correctly project the nature of the changes; however, the absolute values were and should be used with caution.

Several elements of data from which to make predictions concerning personnel retention behavior patterns are required by the Annualized Cost of Leaving (ACOL) model. In the ACOL model, the strengths by grade and year of service are used to reflect the opportunity to receive pay in that grade and year of service. Seven-year average retention rates covering FY76-FY82 were developed by the Defense Manpower Data Center (DMDC) for use by the Fifth QRCM. These retention rates, while theoretical, encompass a period of time where both significant turbulence and stability have occurred with the current active force. Also, these are over the longest possible period of draft-free Uniformed Service force management policies; the retirement system is a long-term management consideration. Because the boundaries on some occupational groups provided by the Services are not identifiable in the DMDC data base, occupational groups were developed for analysis in the ACOL model.

The effects of any changes to the retirement system were evaluated in terms of their resultant impact upon Service force structures which enable the Services to fulfill their various missions in support of national defense. The analyses flowed from the initial force structures, which formed a reference base, through special issues such as vesting, social security integration, force quality and occupational impacts. The analyses also took into consideration the effects of any changes to the retirement system upon the reserve forces, disability retirees and the survivor(s) of the retirees. Full consideration was given to force readiness by ensuring that any retirement alternatives proposed would provide the necessary incentive for quality servicemembers to remain on active duty, thereby ensuring that each Service's requirement for mature leadership was maintained while at the same time providing the necessary blend of youth and vigor. Full cognizance was given to the value of the retirement system from the servicemember's viewpoint. The needs of the Service and the servicemember were always weighed and balanced against the requirements to meet the manpower objectives dictated by our national security objectives.

The basic approach in the analysis of retirement alternatives was to evaluate how the Services should allocate personnel dollars to maximize mission readiness and sustainability. Dollars are allocated either to current compensation (pay/allowances) or to deferred compensation (retirement). In evaluating retirement alternatives, the Fifth QRCM's task was to determine if mission readiness and sustainability could be improved or sustained at current levels by a redistribution of some portion of the retirement benefit to either an earlier timeframe within a retiree's lifespan or to the current pay that a servicemember received while on active duty. Phrased differently, how could the total manpower cost be spent to optimize mission readiness and sustainability? If the same or an improved level of mission readiness could be sustained by restructuring retirement dollars, then careful consideration to implementation of changes is required.

The retention modeling analyses focused on achieving mission readiness after observing the impact on the long-term or steady-state Service force structures from alternative adjustments to current levels of retired/retainer pay. All alternatives to the base case used the "high-three" (HI-3) averaging of basic pay in determining the retirement annuity. This identified the previously undefined force impact of the HI-3 change and provided the opportunity to correct for it. The kinds of adjustments to the current retirement system evaluated included:

1. Multiple year (HI-3) averaging of basic pay for retired pay.
2. Modified multiplier for years of service.
3. Pre-30 YOS (early retirement) retired pay adjustment.
4. Cost-of-living adjustments (indexing).
5. Changes in vesting.
6. Coordination with social security.
7. Member contribution.
8. Combinations of the above adjustments.

A range of possible changes to the current method of computing retired pay was formulated. The changes were both in the kind of retired pay adjustment and the range of each adjustment. Each change was input to the ACOL model and the resultant strength changes were evaluated relative to the seven-year average base case profile (steady state). Three specific force effectiveness parameters, i.e., the number of accessions, the size of the career force (5 through 30+ YOS), and the size of the retirement-eligible portion of the career force (21 through 30+ YOS), were examined because they provide insight into what is occurring to the force structure. Changes in these parameters were then compared to the change in the present value of the difference between Service and civilian income streams. This difference in the present value resulted from specific adjustments made to retired pay or other elements of Service compensation. These changes provided the basis for determining the necessary amount and timing of any reallocation of the retired pay reductions to reestablish the proper force profile.

Three methods of reallocating the cost avoidance funds created by the reduction to retired pay were examined to determine how best to overcome any negative impacts resulting from a retired pay reduction on the overall force structure. The first was to place all or part of the dollars into CURRENT compensation. The second was to RESTORE, or affect a "catch-up" of, the reduced benefit at a selected age or YOS. The third was the provision for an EARLY WITHDRAWAL of a portion of the earned retirement benefit, but only after completing at least the 20th YOS.

General observations from this extensive force structure and cost analyses are as follows:

a. The multiplier and COLA adjustments produce the same approximate impact on the force parameters for an equal reduction in the present value of the Service and civilian income differential.

b. The COLA adjustments do not produce as severe a reduction in the present values as does a multiplier adjustment, because the initial impact is small. The later a large reduction occurs to retired pay after retirement, the smaller the present value reduction when viewed by the member at the time of potential retirement or earlier. Thus, for the range of reasonable COLA adjustments, they will have a higher impact on the retiree's pay in the long term but a smaller impact on the force evaluation parameters. This must be carefully considered in any modification to the retirement system, because placing the larger impact later in a retiree's life (when they are less able to deal with it) is backwards from the way these type adjustments should be made.

c. The COLA adjustment impacts assume a long-term average CPI of 5% and are sensitive to this assumption. The impacts would be more adverse if the average CPI over a selected period of evaluation was higher and vice versa. This is one of several considerations against using the post-retirement indexing adjustment factor (COLA) as the primary means of designing (or redesigning) a retirement system. The history of CPI projections has been less than reliable. Consequently, designing a system using COLA as the primary adjustment is undesirable. Further, an inequity has been, and could continue to be, created by the fluctuations between active duty wage growth (capped in the past with subsequent catchups) and retiree COLAs, which, until recently, were not capped. The solution to the problem of protecting the retired/retainer pay from inflation is not to penalize both active and retired servicemembers but to maintain a continuous and smooth in-service pay adjustment process to assure satisfactory retention and to arrive at a stable retiree indexing policy. The undesirable side effects resulting from the possible design or major modification of a retirement system based solely upon a COLA index should not prohibit the use of combining different COLA indexing policies with other, more stable design factors, relatively insensitive to economic assumptions. In fact, this can and was found to be a useful type of adjustment mechanism to allow cost-efficient force profile shaping.

d. The COLA adjustment tends to flatten the slope of the rate at which retired pay increases (2.5% per YOS). Therefore, the COLA is a disincentive for a servicemember to remain. The COLA thus impacts more on the 21-30 YOS force parameter than any of the other kinds of retired pay adjustments.

e. The pre-30 YOS adjustments steepen the slope of the rate of retired pay increases between 21 and 30 YOS and thus create a larger 21-30 YOS career population than is desired by the Services. This is opposite from the COLA effect. This can be adjusted by a select-out Service force management policy; however, this will change the observed annual continuation rate and the basic shape of the force profile to a larger, early YOS force (which requires a larger number of accessions). This policy aspect was not evaluated by ACOL. The process is comparable to shifting the annual continuation patterns for an extended retirement eligibility point (later vesting).

f. The COLA and pre-30 YOS adjustments could be feasibly and practically blended together to shape a force profile to a desired configuration.

g. There is a greater impact on the resulting enlisted force than on the officer force for any retired pay adjustment. This results from the greater differential between Service pay and civilian wages independent of the retirement annuity. Thus, the retirement annuity becomes more critical to the enlisted servicemember's decision to stay or leave.

h. The Air Force 5-20 YOS career force profile and accessions are generally less affected than the other Services. The Marine Corps is affected most in these force parameters. The Air Force characteristically exhibits a higher annual continuation rate in the early and mid-career timeframe. The Marine Corps has historically reduced an entering cohort more rapidly in the early years of service and then retained this smaller percentage of the cohort longer. The losses from this smaller cohort in the mid-career timeframe coupled with a different average pay stream by YOS help cause the stronger career force response observed for the Marine Corps. Conversely, the Air Force losses in the retirement-eligible years are higher. The Army and Navy fall between these two extremes. In each case, it is the differences in observed prior Service-specific continuation rates, the slight pay variations in each YOS, and the relative force sizes that help produce these responses.

i. The sensitivity to a variation in assumed personal discount rates (PDR) is largest in the pre-30 YOS adjustments and least in the COLA adjustments. The higher the PDR, the lower the amount of re-allocation necessary to reestablish the base case; however, reallocation could not always overcome the undesired effects of the kind of retired pay adjustment employed. Therefore, care must be paid to the PDR sensitivity when making adjustments and reallocations to affect a given shape of the force profile.

j. The higher the reduction in the present value, the greater the cost efficiency. Greater military efficiency and effectiveness could, but does not necessarily, follow. It depends on what must be done to shape the force and how it is done.

k. Retired pay cannot be adjusted without a force profile degradation. The amount of degradation is directly related to the change in the present value of the relative income differential throughout all YOS groups.

l. There are relatively small variations in force maintenance costs (less retirement and reallocation costs) over a wide range of retired pay adjustments for a constant size force.

m. The most effective retired pay reallocation method must place the proper level of compensation incentive at the right year of service (20 YOS) to draw and retain the required number of quality careerists. Expending the compensation (available from reduced retired pay) too early, through the use of CURRENT compensation, reduces efficiency.

(1) The RESTORAL method of retired pay reallocation is not cost efficient and has negligible positive force profile impact.

(2) The CURRENT compensation method of reallocation could be used to reshape the force profile and increase the size of the career force. However, it does not do it in a manner that meets the Services' requirements. It is also less cost efficient than the EARLY WITHDRAWAL method in producing a given change.

(3) The EARLY WITHDRAWAL reallocation method is best suited for maintaining or enhancing the ability of the retirement system to support mission readiness and sustainability. The EARLY WITHDRAWAL is defined as part of the retirement benefit and remains categorized as deferred compensation.

The additional retirement system adjustment mechanisms of changes in vesting, coordination of the benefit with social security, and requiring the servicemember to contribute were examined. The following observations were made:

a. Vesting. Early vesting (between the 5th and 12th YOS) was examined both in conjunction with the current system and with several alternative retirement structures. The overall results indicate that there is both a cost increase and a negative force strength impact caused by the incorporation of early vesting. It creates a younger, less experienced, career force. The effect is the same for both officers and enlisted personnel but is more pronounced for the enlisted members.

Lengthening or extending the years of service necessary to become eligible for an immediate annuity was also examined under two alternative sets of assumptions about the comparative annual continuation patterns. For both assumptions, the current normal cost percentage (NCP) remains the same and there is no near-term reduction in accrual payments or near-term trust fund outlays. This, coupled with the expected increase in force maintenance and long-term retirement costs (higher percent of basic pay resulting from longer service), presents a higher overall cost picture for this case. More importantly, the resultant force profile does not meet the Services' requirements.

Assuming that peak retention rates would be observed in the year of service immediately preceding the first year of vesting, the historical retention rates were shifted to correspond to the appropriate vesting option. This retention rate shift-and-gap-splicing procedure

was used to analyze extended vesting options to YOS 22, 23, 24, 25 and 30. Essentially, this procedure allowed the Fifth QRMC to project what the observed continuation rates might have been had an extended eligibility (over 20 YOS) compensation policy been in effect for a period of time. Under this alternative set of retention assumptions for the base case, the size of the officer and enlisted career forces declined significantly and accession levels increased with each extension in retirement eligibility. In addition, the post-20 element of the officer and enlisted career forces generally declined as fewer members reached the point of vesting. Neither of the two sets of extended vesting options meet the overall career force profiles required by the Services. While the long-term NCP declined for the shifted case, the current NCP does not; therefore, there is no immediate money to set aside to reallocate to reestablish the proper long-term force profile. Neither of these extended vesting alternatives are attractive and each has a high degree of analytical uncertainty.

b. Member Contribution. At first glance, it appears that there are several advantages to making a retirement system contributory. However, a more thorough examination of these issues indicates that there are good and sufficient reasons to keep the system non-contributory. Quite obviously, and perhaps most importantly, there are significant increases in accessions and decrements in the size of the career force associated with the establishment of retirement contributions of meaningful size. This would indicate that an offsetting concomitant pay raise of an equal or greater percentage than the contribution would be required to maintain force size and personnel mission readiness. Only those who do not retire, but withdraw their contribution upon separation, stand to gain in a contributory system. The Government has not gained, since it is, in effect, paying a bonus to those individuals who do not stay until retirement (in the form of a forced savings account), while they were on active duty. Accordingly, it is concluded that the Uniformed Services retirement system should remain non-contributory.

c. Integration with Social Security. Three aspects of integrating Service retirement with social security were reviewed. These were: the implied offset form of integration; the explicit offset form of integration; and full career employment social security coverage with integration. An implied offset to a servicemember's social security benefit was found to exist. It stems from the failure of Congress to update the \$1,200 wage credit authorized in 1968, in recognition of the compensatory nature of Service allowances for quarters and subsistence as an element of the full value of total Service compensation for social security benefit purposes. Since 1968, the social security maximum wage ceiling has increased more rapidly than has the level of basic pay. In 1983, significant wage credit shortfalls in coverage of the "payment-in-kind" exist through the grade of O-4. The wage credit shortfalls translate into an implied social security offset of nearly 20% of the benefit which would accrue if full coverage of "payment-in-kind" up to the maximum wage ceiling for enlisted personnel were permitted. For officer personnel, the implied offset ranges downward from 15% to 5%.

Explicit integration of the current compensation system with social security benefits by inclusion of an offset against retirement benefits was also examined. The offset percentage would be directly additive to the existing implied offset. Proponents of explicit integration of the Service retirement system with social security often overlook the question of the total proper level benefit. They do not recognize the fact that the current retirement system already exhibits a significant degree of de facto integration and that further offsets would have the effect of reducing the total benefit package of lower wage annuitant retirees. Because the social security formula replaces a larger percentage of income for lower wage earners, benefit reductions would be felt more by enlisted members than by officers. Further, due to the attribution problem, officer or enlisted members who may have post-service employment in a civilian firm having an offset provision of 50% in its retirement plan, could realize little or no future benefit from their contributions to social security. This is because there is no method of unambiguously attributing portions of an individual's social security benefit among employers when the individual has more than one employer. When evaluating an employment career, the Social Security Administration does not distinguish between Service and civilian covered earnings used to compute the actual social security benefit.

One of the primary purposes of social security integration in the private sector is to provide a greater replacement income percentage to higher wage earners. This purpose is believed to be neither appropriate nor applicable to the Uniformed Services retirement system. The true purpose of any integration effort concerning the Service retirement system is simply to reduce the cost to the Government, which pays both benefits. Given that as the purpose, why not approach the issue that way and determine the most efficient and practical method? It has already been shown that the total cost to the Federal Government or, said differently, the level of social security benefits paid to most retired servicemembers (based on their Service earnings), is depressed from what others, including the Federal Civil Service, receive for a comparable income earnings history. Any modification of the retirement system should be to accomplish an intended purpose, not just reduce cost.

d. Alternatives. In narrowing the range of feasible alternatives for changing the retirement system, several assumptions were made. These are:

(1) Any resulting retirement system should be as good or better than an average composite of the better, large private-sector retirement systems.

(2) A viable level of monthly retired pay should be retained throughout a retiree's lifetime.

(3) Since a reduced retirement benefit would impact on the required force structure, a portion of the retired pay cost avoidance would be needed to create a force profile which had equal or better force effectiveness than the base case.

Four basic retired pay adjustment alternatives resulted from this overall effort. They are not represented as the only possible ones, rather four representative ways in which the system could be reformed. The process of selecting these four was based on the combined judgments of the Fifth QRMC technical staff about their relative force impacts, cost and feasibility. These four are listed below:

(1) Reduced COLA/EARLY WITHDRAWAL. Annually adjust retirement payment by 50% of CPI, instead of 100% until age 62. Provides retirement EARLY WITHDRAWALS for those under new system who stay to at least the end of 20 YOS (1.6 times annual basic pay at 20 YOS, 0.4 at 23 YOS and 0.5 at 27 YOS). Only paid to people under new system.

(2) Reduced Multiplier/EARLY WITHDRAWAL. A multiplier of 1.75% vice 2.50% of basic pay per year of service, i.e., 35% vice 50% at 20 YOS, 43.75% vice 62.50% at 25 YOS and 52.5% vice 75% at 30 YOS. Provides retirement EARLY WITHDRAWALS to all who stay to at least the end of several YOS (2.1 times annual basic pay at 20 YOS, 0.6 at 23 YOS and 1.0 at 27 YOS). Only paid to people under new system. Full COLA.

(3) Reduced Early (Pre-30 YOS) Benefit/EARLY WITHDRAWAL. Retirement benefit percentage of basic pay is tapered (-3% per year) from 35% at 20 YOS to 75% at 30 YOS (35, 38, ..., 53.1 at 25 YOS, ..., 70.3, 75). Provides a retirement EARLY WITHDRAWAL (2.1 times annual basic pay at 20 YOS) to all who stay at least the end of 20th YOS. Only paid to people under new system. Full COLA.

(4) Combination/EARLY WITHDRAWAL. Reduces COLA adjustment to 75% until age 62; reduces pre-30 YOS retiree benefit by 3% per year (tapered from 35% at 20 YOS to maximum 75% at 30 YOS) and allows a retirement EARLY WITHDRAWAL of 2 times annual basic pay for officers and 3 times for enlisted for all under new system who stay at least through the end of 20 YOS. Only paid to people under new system.

The long-term (steady-state) impact of these variations on the four Service force profiles was examined. The combined DoD force strength changes (and percentage) are relative to the seven-year average base case without the HI-3 adjustment. (These data only concern the impact on future Service entrants. Transition impacts are covered later.) Results are summarized in Tables I-1 through I-4. The enlisted strength impact without an EARLY WITHDRAWAL (EW), for example, is shown for the 50% COLA alternative under the column entitled ROOT, Table I-1. The accessions under this condition would be increased 21,300 over the base case number of 332,500. By incorporating the EW, the required accessions would be 2,600 less than 332,500.

Table I-1
Alternatives 1 and 2
(Enlisted Force Profile)

	BASE CASE	REDUCED COLA (50%)		REDUCED MULTIPLIER (1.75)	
		ROOT	EW	ROOT	EW
<u>STRENGTH</u>					
ACCESSIONS	332,500	+21,300	- 2,600	+29,300	- 5,500
CAREER FORCE	774,000	-63,900	+ 6,700	-87,500	+15,400
5-20 YOS	718,700	-36,600	+10,500	-52,500	+10,900
11-20 YOS	329,600	-34,600	+ 6,400	-48,700	+ 6,700
21-30 YOS	55,000	-27,200	- 4,300	-34,700	+ 4,000

COST(Millions)

NCP %	50.71(45.25)*	38.30	43.61(40.95)	35.93	42.89(41.10)
FORCE	32,700	32,200	32,800	32,000	32,900
RETIREMENT	9,900	5,700	6,900	5,300	7,000
EW	-	-	900	-	1,200
TOTAL EW & RETIREMENT	9,900	5,700	7,800	5,300	8,200

Table I-2
Alternatives 3 and 4
(Enlisted Force Profile)

		REDUCED EARLY BENEFIT (3% Pre-30 YOS)		COMBINATION (75% COLA/3% Pre-30 YOS)	
	<u>BASE CASE</u>	<u>ROOT</u>	<u>EW</u>	<u>ROOT</u>	<u>EW</u>
<u>STRENGTH</u>					
ACCESSIONS	332,500	+20,900	- 8,100	+13,500	- 9,800
CAREER FORCE	774,000	-41,100	+22,700	-62,900	+27,600
5-20 YOS	718,700	-36,800	+16,100	-48,900	+27,900
11-20 YOS	329,600	-36,300	+10,000	-47,800	+19,200
21-30 YOS	55,000	- 4,800	+ 6,000	-14,200	- 800

COST(Millions)

NCP%	50.71(45.25)*	40.15	46.58(44.12)	34.93	43.59(40.62)
FORCE	32,700	32,500	32,900	32,300	32,900
RETIREMENT	9,900	6,800	8,000	5,300	6,700
EW	0	-	1,000	-	1,500
TOTAL EW & RETIREMENT	9,900	6,800	9,000	5,300	8,200

* Current NCP (ACOL ultimate NCP)

Table I-3
Alternatives 1 and 2
(Officer Force Profile)

STRENGTH	BASE CASE	REDUCED COLA (50%)		REDUCED MULTIPLIER (1.75)	
		ROOT	EW	ROOT	EW
ACCESSIONS	25,800	+ 2,100	- 600	+ 3,400	- 700
CAREER FORCE	176,100	- 7,300	+ 1,800	-11,700	+ 2,000
5-20 YOS	155,200	- 2,500	+ 400	- 3,000	+ 1,200
11-20 YOS	73,800	- 4,700	+ 700	- 6,700	+ 1,000
21-30 YOS	20,400	- 5,100	+ 500	- 8,600	+ 300
COST(Millions)					
NCPZ	50.71(45.25)*	38.30	43.61(40.95)	35.93	42.89(41.10)
FORCE	11,700	11,800	11,700	11,800	11,700
RETIREMENT	5,100	3,300	3,700	3,000	3,500
EW	0	0	400	0	600
TOTAL EW & RETIREMENT	5,100	3,300	4,100	3,000	4,100

Table I-4
Alternatives 3 and 4
(Officer Force Profile)

STRENGTH	BASE CASE	REDUCED EARLY BENEFIT (3% Pre-30 YOS)		COMBINATION (75% COLA/3% Pre-30 YOS)	
		ROOT	EW	ROOT	EW
ACCESSIONS	25,800	+ 1,200	- 1,200	+ 2,000	- 400
CAREER FORCE	176,100	- 4,400	+ 3,600	- 7,100	+ 1,000
5-20 YOS	155,200	- 4,900	- 800	- 4,900	- 700
11-20 YOS	73,800	- 6,300	+ 100	- 7,500	- 1,000
21-30 YOS	20,400	- 500	+ 3,100	- 3,100	+ 600
COST(Millions)					
NCPZ	50.71(45.25)*	40.15	46.58(44.12)	34.93	43.59(40.62)
FORCE	11,700	11,800	11,700	11,800	11,700
RETIREMENT	5,100	4,000	4,300	3,300	3,600
EW	0	0	400	0	400
TOTAL EW & RETIREMENT	5,100	4,000	4,700	3,300	4,000

* Current NCP (ACOL ultimate NCP)

Three costs were observed to be important. Among these three, the variance in force costs was insignificant and, thus, was not a critical evaluation factor. The remaining two are comprised of the cost avoidances realized in the DoD accrual payments (based on the NCP), which begin in FY85, and the long-term cost avoidances of the retirement trust fund outlays. Figures I-1 and I-2 compare the resultant values for each of the four alternatives. For example, in Figure I-1, no change in the retirement trust fund is shown until FY2005 when the first retirees (new entrants in FY85) under the new system are assumed to retire and draw the EARLY WITHDRAWAL. This creates a surge in the trust fund outlays which lasts about 20 years before substantial permanent reductions in outlays are realized. The temporary increase in the trust fund would actually be less than shown because it assumes the worst condition: everyone eligible draws the EW at the end of 20 YOS. Actually, not everyone retires at 20 YOS; those who did not but took the interest-only loan would be paying interest. This would reduce the overall outlays and the NCP (slightly). The long-term percentage reductions in trust fund outlays are 11.2% for the 3% pre30 YOS, 16.6% for the 1.75 multiplier, 13.6% for the 50% COLA, and 18.2% for the combination alternative.

Figure I-1

FUTURE RETIREMENT COST RELATIVE TO CURRENT SYST

TRUST FUND OUTLAYS

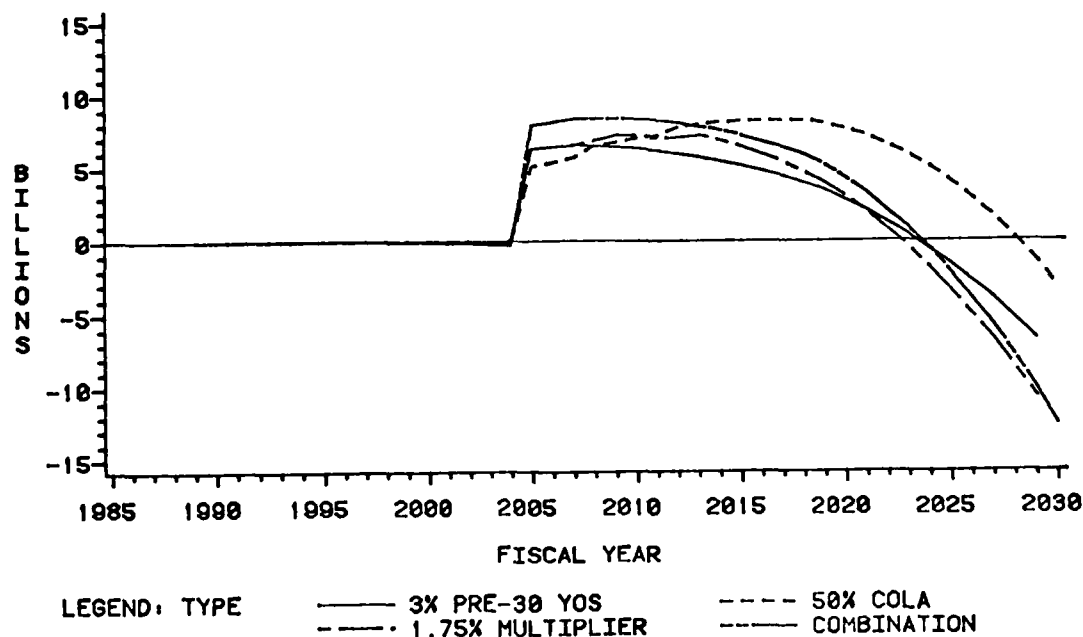
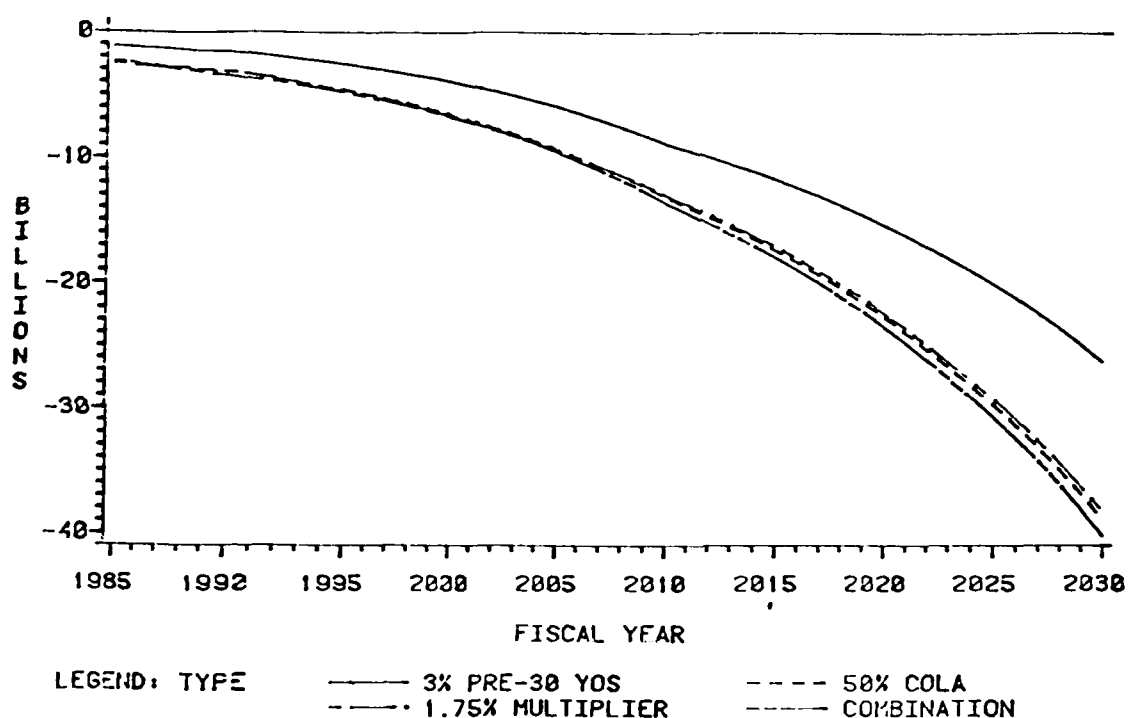


Figure I-2 shows the DoD accrual payment reduction in billions (dynamic dollars at a CPI of 5%). The immediated reduction in the DoD annual accrual payment to the retirement trust fund is shown in billions (dynamic dollars at 5% CPI). The starting percentage reduction and resulting long term reduction as the force transitions are as follows for the four alternatives.

		FY1985	FY2010 & on
50% COLA/EW	-	14.0%	19.3%
1.75 Multiplier/EW	-	15.4%	19.0%
3% Pre-30 YOS/EW	-	8.1%	13.0%
COMBINATION/EW	-	14.0%	19.9%

Figure I-2
FUTURE RETIREMENT COST RELATIVE TO CURRENT SYSTEM
DOD ACCRUAL OBLIGATION



Implementing any modification to the Uniformed Services retirement system requires a careful consideration of what, if any, part of the new system will affect current force servicemembers without degrading mission readiness. Current retirees are not normally part of any such decision process; however, because the policy regarding indexing for inflation (COLA) is involved, this impact must also be reviewed. The second consideration is that of resultant costs. To evaluate the effect that implementation of an alternative retirement system would have on the force structure during the transition period, a transition capability

was incorporated into the ACOL model. Four transition cases for the two QRMC alternatives involving a COLA reduction were evaluated. These four cases were:

- CASE I Current retirement system with 75% COLA for current retirees and future non-disability retirees from the current force under age 62. (Combination/EW alternative).
- CASE II Current retirement system with 50% COLA for current retiree and future non-disability retirees from the current force under age 62. (Reduced COLA/EW alternative).
- Case III Alternative retirement system based on 3% year pre-30 YOS benefit reduction, EARLY WITHDRAWAL after 20 YOS of 2.0 times basic pay for officers and 3.0 times for enlisted personnel and a grandfather clause to cover members with 12+ years of service as of 1 October 1984. All current and future non-disability retirees from the current force under age 62 receive a 75% COLA. (Combination/EW alternative).
- CASE IV Alternative retirement system based on an EARLY WITHDRAWAL after YOS 20, 23, and 27 of 1.6, 0.4, and of 0.5 times basic pay, respectively. Servicemembers with less than 12 YOS at time of implementation receive the EW. All current retirees and future non-disability retirees from the current force under age 62 receive a 50% COLA. (Reduced COLA/EW alternative).

CASE I and CASE II with only the partial COLAs applicable to the current force are the worst cases. The EARLY WITHDRAWAL in CASE IV raises the officer career force above the levels that would obtain from aging the current force under the historical average continuation patterns of the current retirement system. For the enlisted career force, CASE IV pulls the force size forward and achieves the levels of the historical averages of the current retirement system during the transition period. CASE III achieves a middle ground and is more effective in restoring the career force to levels equal to or better than the historical average under the current retirement system. Figures I-3 through I-6 display these data.

Figure I-3
ACCESSION LEVEL CHANGES DURING TRANSITION
BY RETIREMENT OPTION
GROUP=ENLISTED

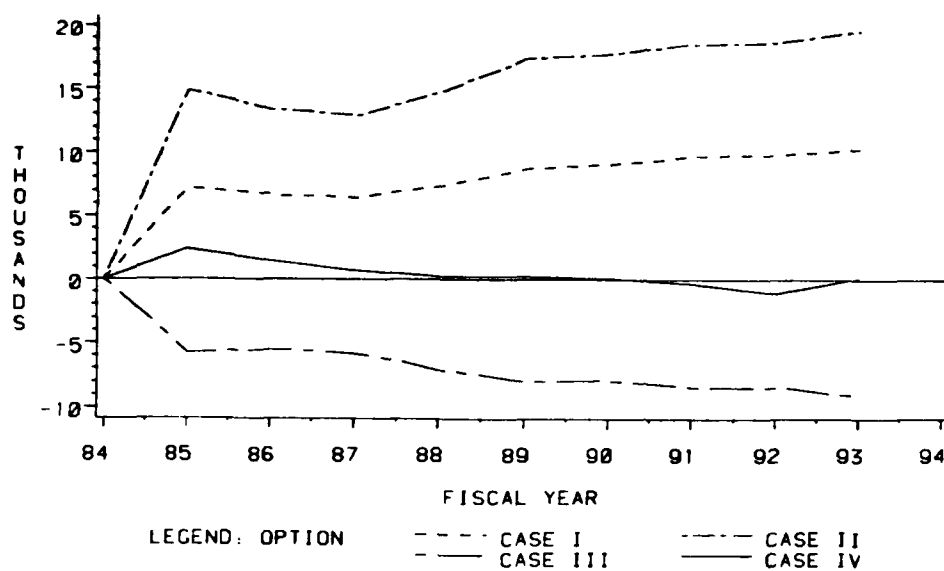


Figure I-4
CAREER FORCE CHANGES DURING TRANSITION
BY RETIREMENT OPTION
GROUP=ENLISTED

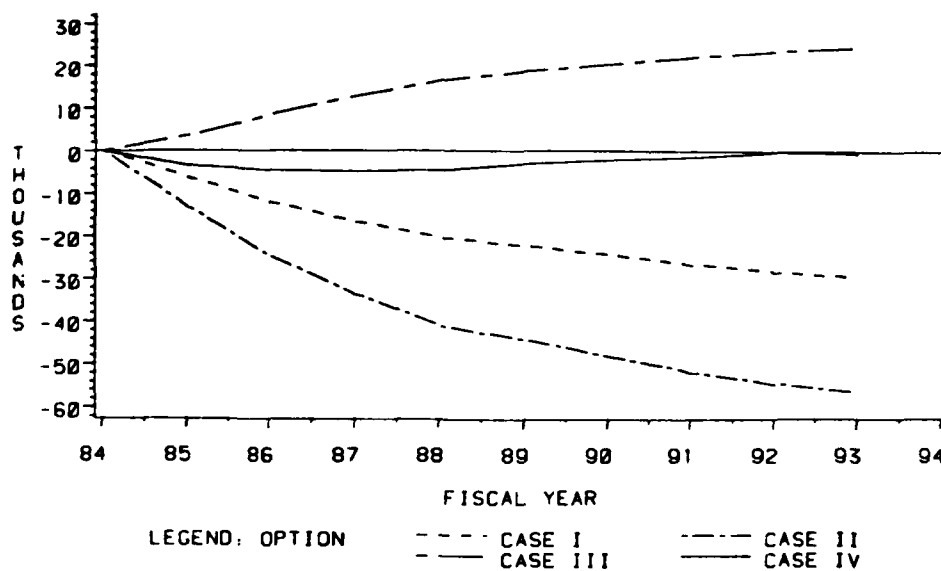


Figure I-5
ACCESSION LEVEL CHANGES DURING TRANSITION
 BY RETIREMENT OPTION
 GROUP=OFFICER

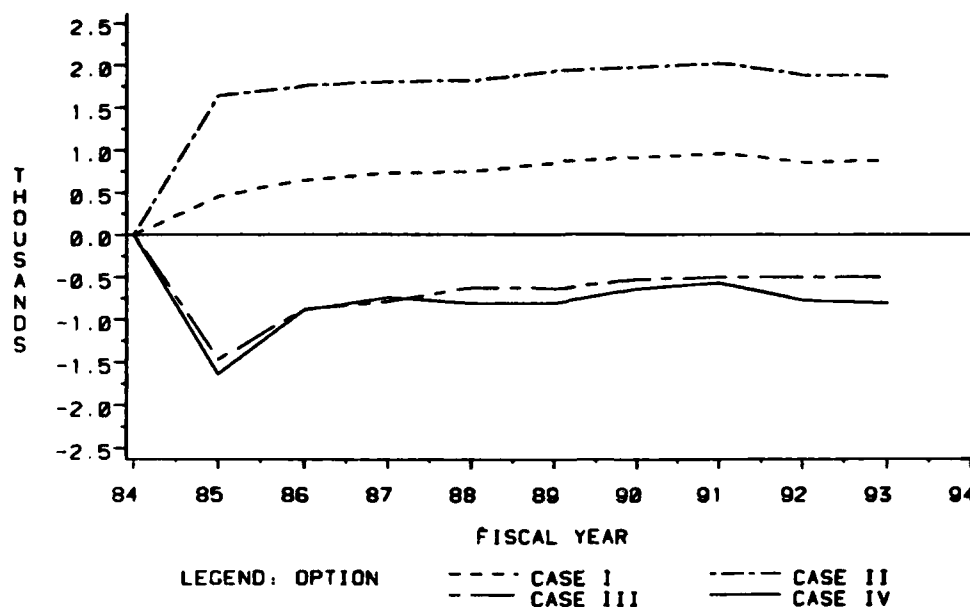
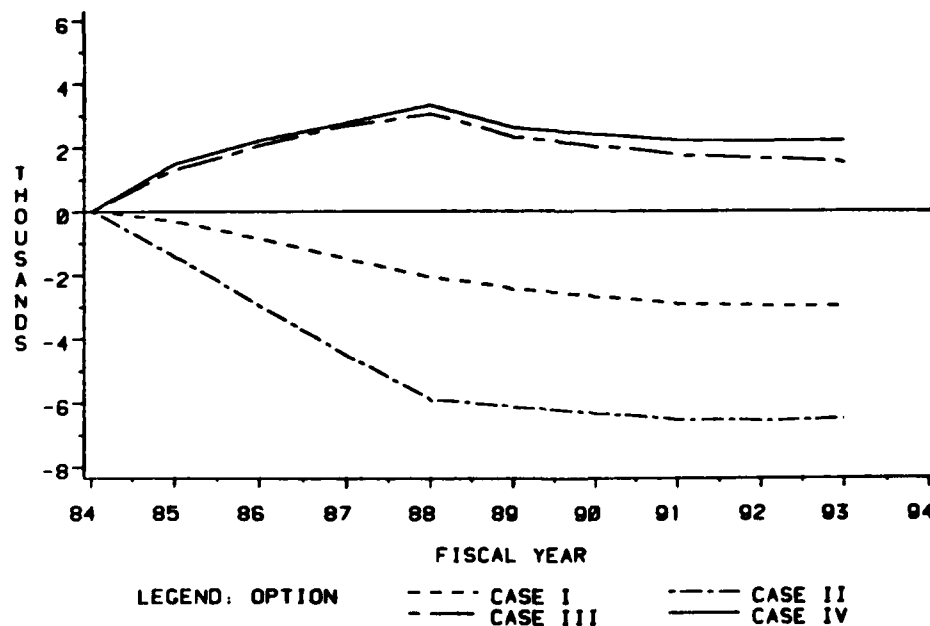


Figure I-6
CAREER FORCE CHANGES DURING TRANSITION
 BY RETIREMENT OPTION
 GROUP=OFFICER

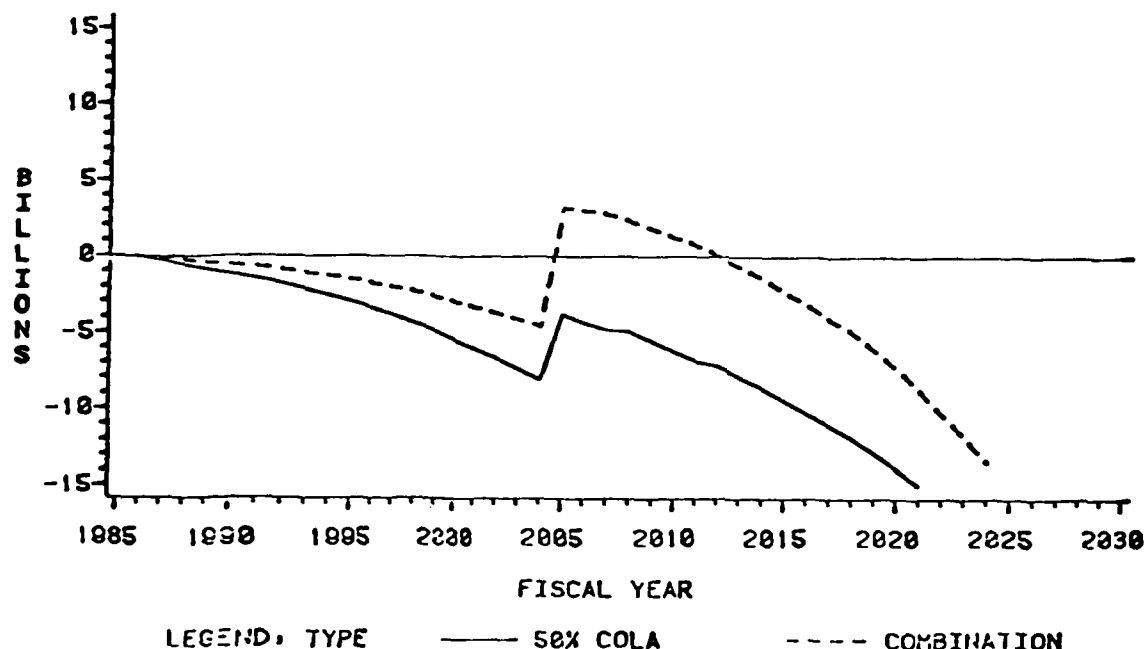


The four prime alternatives were analyzed for their impact on the trust fund outlays under two types of grandfathering scenarios. The only two plans which, if totally grandfathered except for any COLA adjustment, and hence, had an immediate savings under this type of grandfathering, were Alternative 1 (Reduced COLA) and Alternative 4 (Combination). Figure I-7 shows the result of this type transition.

Figure I-7

FUTURE RETIREMENT COST RELATIVE TO CURRENT SYSTEM

TRUST FUND OUTLAYS - COLA NOT GRANDFATHERED

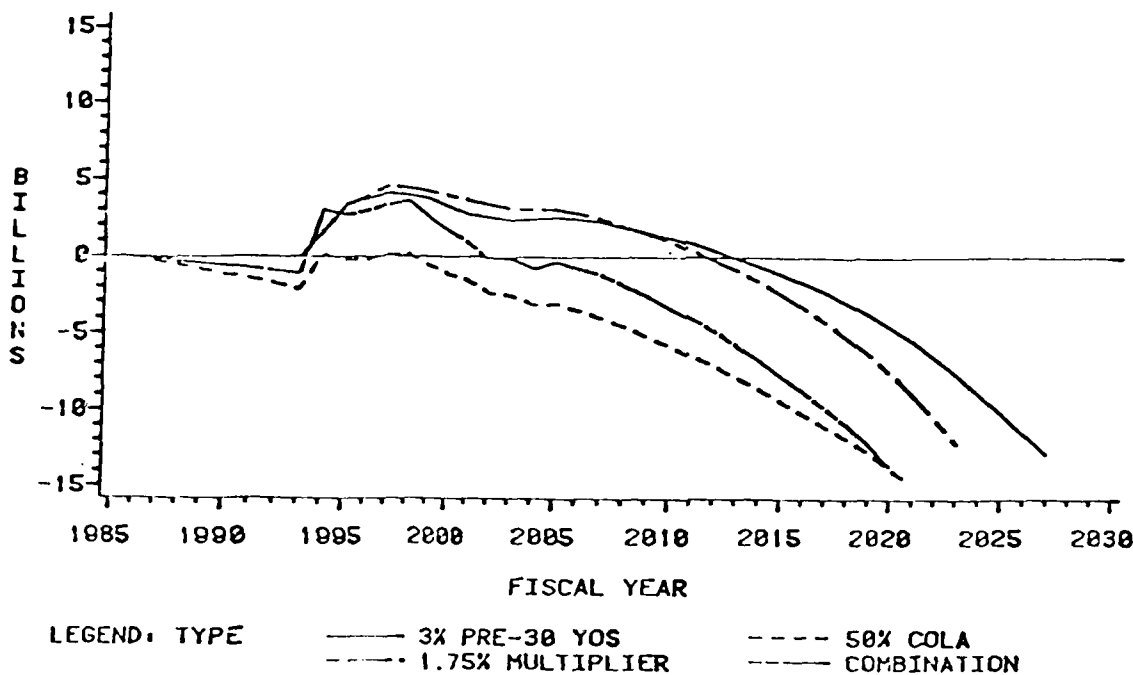


The second scenario fully grandfathered all members with 12+ YOS, again with the exception that any reduced COLA applied immediately to everyone. Members with less than 12 YOS have the option of electing into the new system. In order to obtain the cost boundary of the cost impact, it was assumed that all members with less than 20 YOS would elect into the new system. Figure I-8 shows the results. This simply reduces the initial surge in trust fund outlays and moves it forward to FY94.

Figure I-8

FUTURE RETIREMENT COST RELATIVE TO CURRENT SYSTEM

TRUST FUND OUTLAYS - COLA NOT GRANDFATHERED - PRE-12 YOS OPTION



Any proposed legislation to modify the current retirement system by reducing retired pay must stress the absolute requirement that a form of reallocation must be an integral part of the new system. The reallocation is, in actuality, a part of the reduced retirement lifetime earnings (deferred compensation) to a more current timeframe. Evaluation suggested that the EARLY WITHDRAWAL amount be paid independent of whether a member retired at this point. This appeared to have undesirable perception aspects, as well as raising Service concerns about it encouraging the members to take the EARLY WITHDRAWAL lump sum and then immediately retire. The Fifth QRMCI did not believe this latter concern to be totally valid. Many servicemembers have a cash flow problem to meet their family responsibilities at about the time of retirement eligibility. The thought is that making a part of the EARLY WITHDRAWAL available through a low rate, interest-only loan would solve the cash flow problem and allow continued service rather than seeking higher civilian earnings by combining retirement and civilian earnings. The fact that civilian earnings will exceed Service pay is questionable on the basis of the average post-Service earnings data developed by the Fifth QRMCI.

The issue then becomes how to make this earned retirement benefit, and this is an important distinction, available to the servicemember. This is also fundamental to the ACOL analysis, in that, the "carrot" must be perceived by the member as available at the point

selected for its eligibility. Interestingly, the payment of such an EARLY WITHDRAWAL has precedent in foreign military retirement systems and is not new in the United States. Capital accumulation plans in the private-sector retirement planning are of increasing importance and value.

A review of post-Service earnings of former military personnel was conducted as it provided an important measure of the civilian wage available to personnel who separate or retire. This knowledge about post-Service earnings is helpful in setting Service compensation policy related to retirement and Special and Incentive pays. Officer separatees and enlisted retirees go through a significant transition period where their earnings are considerably less than those of their civilian peers. For both groups, the transition period is about seven to nine years -- earnings continue to rise relative to civilian counterparts until the end of the ninth year after separation. Both officer and enlisted retirees earn less in the private-sector than do their civilian peers. The difference is much more significant for male enlisted retirees. When a Service retiree's retirement benefit is taken into consideration, the overall earnings picture significantly improves. This observation must be coupled with the fact that those reaching a career length of 20 or more years have been subjected to continuous quality screening and represent the top 10 percent of all Service personnel at 20 YOS; the top 2% at 30 YOS or greater. Clearly, these people are not the average and should be compared to the higher civilian percentile.

e. Assessment of Other Studies. Several previous, major retirement plan proposals that have evolved from earlier large study efforts were evaluated by the Fifth QRMCM using the same analytical techniques developed for its more general study of alternative retirement considerations. In each case the HI-3 averaging of basic pay was used to conform to today's environment. These proposals were found to respond in the same way as the more general parametric analysis results for each type of retired pay adjustment. None were observed to be more useful than any of the prime alternatives and, in fact, had a number of features not supported by the Fifth QRMCM.

In particular, the Grace Commission findings and recommendations regarding the basic restructuring of the Uniformed Services retirement system would not accomplish the basic purpose of that system, i.e., supporting the national security objectives. Although, they could reduce individual entitlements and costs, the Grace Commission recommendations offer no improved capability for the retirement system to better meet defense requirements. The proposed changes would cause immediate recruiting and retention disincentives. The changes would potentially lead to an immediate unacceptable degradation of middle and senior management, in terms of both numbers and quality.

f. National Guard and Reserve Retirement System. The ability of the Fifth QRMCM to analyze the Reserve Components retirement system was constrained both by data limitations and time. This limitation

is recognized, especially in view of the current emphasis to shift some of our active duty responsibilities to the reserve forces. If this shift continues to be our policy, the relationship between active and reserve compensation systems becomes increasingly important, particularly in the retirement element of those systems.

As with the active forces, the compensation system for the National Guard and Reserve forces must be an integral part of the overall system by which manpower is managed. We now depend upon the Reserve Components for a high percentage of essential wartime missions and many Reserve Component units are scheduled to deploy prior to active force units. Additional review and analysis of the organization, structure and record-keeping practices for Reserve Component members and discharges who may receive retirement benefits is essential so we can better understand the impact of change on our Total Force structure.

g. Disability Retirement System. A detailed analysis of the disability retirement system was not conducted as part of the Fifth QRM. The alternatives to the current system analyzed by the Fifth QRM have only a marginal impact on the disability retirement system. However, it was observed that the difference in classification of a fairly sizable portion of retirees between DoD and the VA has implications for the mobilization base and needs to be reviewed. Finally, the ability of disabled (in the VA evaluation) retirees to cycle between two annuities, i.e., VA benefits and DoD retiree payments, was undoubtedly not intended by law and should be resolved.

E. FINDINGS. A series of major findings can be drawn from the overall Fifth QRMC study. They are as follows:

1. The first known authority to use the retirement system to produce a younger and more vigorous force was the Act of February 28, 1855. It permitted the Secretary of the Navy to convene examining boards to determine the capability of officers to "perform their whole duty both ashore and afloat," and to remove any officer not capable of such performance.

2. The Uniformed Services retirement system is designed specifically to support and complement the management of the Total Force (active and Reserve Components) and functions as an integral part of the Uniformed Services compensation structure. It is not an old-age pension system similar to those normally found in the private sector or in other Federal retirement programs.

3. The United States is the only free world nation to have a retirement system for both active forces and the Reserve Components.

4. The current retirement system has been, and continues to be, a powerful career incentive. It has supported mission readiness in both the active and reserve forces. Retirement begins to exert significant retention effect (pull) between 8-12 years of service. The actual point varies between officers and enlisted personnel and among occupational skills. For most enlisted personnel, it becomes a significant consideration at about the second reenlistment point. About one of every three enlisted personnel who reach the 5th year of active service will retire from active duty approximately two of every three officers.

5. The actual manpower inventory and force profile for any given year does not resemble the Service desired steady-state force profiles. The fundamental reason for this undesirable result is that the Service manpower and personnel system is essentially a "closed system" in which lateral entry of non-prior service personnel is rarely utilized. The varied rates of retention among different skills in the career force, together with a continuously changing character of the skill mix required to keep pace with the introduction of new technology and associated weapon systems, add yet another dimension of complexity. Aggravating these fluctuations are changes in the national economy and civilian employment opportunities, societal attitudes about the Service, and the continued sawtooth pattern of maintaining Service compensation at the "right" comparable and/or competitive levels as perceived by the servicemembers themselves.

6. The retirement system will help the retention of quality personnel only when the overall compensation system is adequate to recruit and retain quality in the short term and to draw sufficient personnel to the point of service where the retirement incentive becomes a predominant part of an individual's decision process. This requires a careful balance between current and deferred compensation as well as

Service force management policies. The latter must provide for quality screening and selection, as well as for the application of appropriate current compensation to induce those quality personnel on the margin to stay. The recent Presidential Military Manpower Task Force reinforced that aspect in stating the need to adequately fund Service basic pay, allowances and special pays in order to maintain our required force size.

7. Meaningful analyses of the retirement system must use a requirements-based methodology and an analytical approach that focuses on force structure. To do otherwise, could possibly change its capacity to accomplish its intended purpose.

8. There have been nine major studies over the past 35 years. All have recommended changes to the Uniformed Services retirement system by reducing the benefit level. None have adequately addressed the Service force requirements issue.

9. The current retirement system can be restructured and strengthened to produce the same or improved force profiles as the current system and thus sustain mission readiness at less cost.

10. There are eight viable methods of modifying the retirement system by adjusting the level of the retired/retainer pay. They are:

- a. Multiple-year averaging of basic pay for retired pay.
- b. Modified multiplier for years of service.
- c. Pre-30 years of service (early retirement) retired pay adjustment.
- d. Cost-of-living adjustments.
- e. Changes in vesting.
- f. Integration with social security.
- g. Member contribution.
- h. Combination of the above adjustments.

11. Any reduction in the retirement benefit without some necessary compensation restructuring will negatively impact the career force and, thus, reduce mission readiness.

12. The enlisted career force is more sensitive to retired pay changes than the officer force. This is true for all Services. The reason lies primarily in the difference in the relationship between Service and civilian pay streams. The officer pay generally exceeds the average civilian alternative income stream and, thus, generates a positive

inducement to remain in service, independent of the retirement draw. For enlisted personnel, however, Service pay generally falls short of the average civilian alternative income stream and thereby generates an inducement to leave the Service. The negative aspect must be overcome by the retirement draw.

13. The September 1980 implementation of the "high three" year basic pay averaging methodology in calculating the retirement annuity is projected to cause a career force reduction of about 0.5% for officers and 1.2% for enlisted personnel. The reduction in the later part of the career force (21-30 YOS) is five percent for officers and twenty-two percent for enlisted personnel.

14. Any proposed modification to the current retirement system must recognize and attempt to overcome these projected losses due to "high three" year averaging, if the desired Service force structures are to be achieved in the future.

15. The current retirement system can be restructured for new Service entrants by reducing the amount of retired pay and paying part of the remaining portion sooner. The most effective retired pay reallocation method must place the proper level of compensation incentive at the right year(s) of service to draw and retain the required number of quality careerists. Expending the reallocation too early, through CURRENT compensation, reduces cost efficiency and force effectiveness.

16. The RESTORAL reallocation method which reestablishes the level of the reduced benefit at a certain age, or anniversary of a year of service, is beneficial to the retiree but is the least cost efficient of the three methods evaluated. Small positive force changes result from this method compared to the added cost. It will not restore equal force effectiveness under any equal cost circumstance.

17. The EARLY WITHDRAWAL reallocation method is best suited for maintaining or enhancing the ability of any modified retirement system to support mission readiness and sustainability. The EARLY WITHDRAWAL is part of the retirement benefit and remains categorized as deferred compensation.

18. The Fifth QRMC analysis produced four primary alternatives for restructuring and strengthening the current retirement system:

a. Reduced Multiplier/EARLY WITHDRAWAL. The largest near-term DoD cost avoidance results from the 1.75% multiplier alternative which has a 15.4% reduction in the normal cost percentage (NCP). It has a long-term 16.6% reduction in trust fund outlays. Although this alternative is the most cost efficient for reallocation, this alternative without any EARLY WITHDRAWAL results in the most severe force impact. It does not restore the force profile in the early/mid career (5-20 YOS) as well as the Combination alternative, and requires multiple EARLY WITHDRAWAL payments which is less desirable. However, the surge in the future trust

fund payments due to the EARLY WITHDRAWAL is lower than the Combination alternative (which is the highest) and lasts a slightly shorter period. It has no short-term savings. It is easily implemented without creating equity problems with the current force.

b. Reduced COLA/EARLY WITHDRAWAL. The second most cost efficient reallocation alternative is the 50% COLA adjustment. It reduces the current NCP by 14%. It reduces long-term trust fund outlays by 13.6%. Near-term cost avoidances are possible, but with significant force impact, if the current force is not grandfathered. The EARLY WITHDRAWAL surge lasts the longest and is the largest. The 50% COLA alternative has the undesirable aspect of great economic uncertainty for both the Government and the servicemember and is a poor choice as a primary method for modifying the retirement system. Implementation and transition to this alternative present equity problems for the current force. It does not restore the career force profile as well as other alternatives and thus requires multiple EARLY WITHDRAWALS.

c. 3% Pre-30 YOS/EARLY WITHDRAWAL. This alternative and the Combination alternative have about the same reallocation cost efficiency, but results in the least cost avoidance in all categories for both the near and long term. Its current NCP reduction is 8%; there are no near-term trust fund cost avoidances. Long-term trust fund cost avoidances after the EARLY WITHDRAWAL surge, which is the smallest, are 11%. This alternative does not restore the required career force profile because of the heavy draw to the 21-30 YOS part of the career force. A single EARLY WITHDRAWAL at the end of 20 YOS is the only reallocation required. This alternative, like the reduced multiplier, is easily implemented (no equity problems with current force).

d. Combination/EARLY WITHDRAWAL. This alternative reduces the current NCP by 14% and has the largest long-term trust fund outlay reduction (18%). The long-term NCP reduction is also the largest (about 20%). This alternative most correctly shapes the career force profiles. The incorporation of the COLA adjustment, however, raises equity problems for the current force. Near-term savings are possible with a small transitory force impact if COLA is not grandfathered and if the members with less than 12 YOS choose the modified system.

19. Those servicemembers on active duty at the time of implementation of a modified retirement system must retain the option of computing their initial retired pay under the current system. The option of electing the modified system in toto should be limited to those current servicemembers with 12 years of service or less.

20. Any alternative which reduces the retirement benefit immediately affects the DoD budget by reducing the annual accrual payment and thus the required TOA. Only alternatives which affect indexing (COLA) could produce an immediate reduction in the Treasury retirement trust fund outlays. Other alternatives require over 25 years to affect trust fund cost avoidances.

21. There is no vesting in the Uniformed Services retirement system short of the attainment of 20 years of active service (20 creditable YOS for the Reserve Components), except in the case of disability retirement. Earlier (pre-20 YOS) vesting for a deferred benefit costs more and is of no value to mission readiness. The early vesting issue is one of equity. Extending the initial retirement eligibility to some point beyond 20 YOS is counter to stated Service requirements and costs more. The current system of severance pay, as well as the enlisted bonus structure, provides sufficient remuneration for services rendered and provide a degree of equity for servicemembers who either voluntarily or are involuntarily terminated from the Service short of 20 creditable years.

22. The implementation of a contributory retirement system, where member contributions are of a meaningful percentage, would create significant increases in accessions and decrements in the size of the career force. This indicates that an offsetting concomitant pay raise, of an equal or greater percentage than the contribution, would be required to maintain acceptable force size and mission readiness. Only those who do not retire, but withdraw their contribution upon separation, stand to gain in an contributory system. The Government would not gain, since it would be paying a bonus in the form of a forced savings account to those individuals who do not stay until retirement.

23. Social security benefits have been, and are expected to be, less than for comparable private-sector earnings as a result of contributions only on basic pay rather than basic military compensation (BMC). This establishes an implicit, partial integration. Explicit integration would more severely impact enlisted personnel's old-age income.

24. The retirement proposals set forth by the Grace Commission do not support the basic purpose of the retirement system and would seriously degrade the Services' ability to maintain mission readiness.

25. Cost comparison of the current Service retirement benefits with private-sector old age pension plans on a rigorous basis indicate:

a. Service retirement costs the Government 1.2 to 2.0 times more than the average of a large sample of private-sector plans.

b. Service retirement costs for the Government and servicemember combined are 1.2 to 1.6 times higher.

c. The 20-YOS Service retiree's total benefit (lifestream earnings) present value is about 30% higher than a private-sector individual who retires with full benefits at age 62/20 YOS (90th percentile).

d. The 30-YOS Service retiree's total benefit is about 15% higher than a civilian retiree age 65/35 YOS (90th percentile).

26. The current Uniformed Services retirement system is a pay-as-you go system with a FY83 cost of about 16 billion dollars. Accrual accounting will begin within DoD in FY85 as required by Public Law 98-94 with the Services' funding retirement costs using the advance funding concept and an accrual accounting technique. This assures that future retired costs consider today's force structure and current compensation decisions.

27. Analysis of FY55 to FY82 active force retirement cost growth indicates that 55 percent of the cost growth is attributable to inflation, 21 percent is attributable to wage growth in excess of inflation, 19 percent is attributable to the elevenfold retired population growth, and 5 percent of the increase is due to the retired pay adjustment mechanism. Similar increases were experienced in the Reserve Components retirement costs. Assuming a constant force size (2.1 million active and 1.0 million reserve) the rate of retirement cost growth is projected to decrease and should level out in the early 21st century, except for the growth caused by the decreased mortality rates.

28. Retirees may be classified as non-disability retirees by the DoD but be eligible for VA disability payments, even though DoD and VA use the same schedule to determine eligibility. The DoD rates a retiree's condition only once, at the time of retirement; but, the VA allows reevaluation. It is frequently advantageous for retired members to accept the VA benefit, because it is exempt from Federal income tax. The DoD retirement benefits are reduced by the amount received from VA.

29. Non-disability retirees are a mobilization asset. However, of the approximately one million retirees classified by DoD as non-disabled, 25% have an offset to their retirement annuity due to payments received from the VA for disability; therefore, they may not be a viable mobilization asset.

30. The last major study of Reserve Components compensation was conducted in 1976. It employed a study process and guiding principles similar to the Fifth QRM review. In view of the increased emphasis on redistributing active responsibilities to the reserve forces, a new study of reserve compensation is warranted. The Fifth QRM was unable to undertake this task.

31. As with the active forces, the Reserve Components compensation system must be an integral part of the overall system by which the manpower of these forces is managed. It must also have sufficient flexibility to adapt to the unique needs of these forces. Active and Reserve Components retirement compensation should be complementary and not competitive.

32. The current Reserve Components retirement entitlement structure allows credit for longevity pay raises, wage growth, and full CPI protection, even though the reservist may become inactive prior to reaching age 60. This is inconsistent with the active retirement entitlement structure and requires review.

F. RECOMMENDATIONS. The Fifth QRMC makes the following recommendations for strengthening the Uniformed Services retirement system:

1. That the basic purpose not be changed and that no modification of the current system be undertaken that will degrade the mission readiness and sustainability of our Uniformed Services.

2. That evaluations of retirement system alternatives must analyze force impact. This is true for this study and will remain true in the evaluation of all subsequent proposals. The risk of doing otherwise is simply too great to be ignored. Changes to the retirement system cannot be driven by cost avoidances alone.

3. That any modifications to the current system be proposed in a legislative form that recognizes the absolute requirement for an integrated proposal and that subsequent fragmenting of the modification could negate the resultant force structure and thus, could cause the modification to fail its intended purpose. A greater degree in the stability of the overall Service compensation system, to include the retirement system, is strongly recommended to provide the servicemember a reasonable basis for career planning.

4. That consideration be given to strengthening the current system by modifying it in line with the results of the Fifth QRMC analyses. One of the four primary alternatives should be considered. These four alternatives are:

- a. Reduced Multiplier/EARLY WITHDRAWAL.
- b. Reduced COLA/EARLY WITHDRAWAL.
- c. 3% Pre-30 YOS/EARLY WITHDRAWAL.
- d. Combination/EARLY WITHDRAWAL.

5. That any modification to the retirement system provide, at the time of retirement, payment of an appropriate EARLY WITHDRAWAL amount from the total remaining earned retirement benefit.

6. That the funds to make these EARLY WITHDRAWALS be made as a part of the annual accrual payments to the retirement trust fund inasmuch as the EW is, and should continue to be, defined as part part of the retirement benefit and, therefore, deferred compensation.

7. That the non-DoD Services be required to implement the advance retirement funding concept and initiate accrual payments to a separate Treasury retirement trust fund for their servicemembers.

8. That from the time (YOS) of EARLY WITHDRAWAL eligibility until the time of retirement, the unused EARLY WITHDRAWAL should draw (accumulate) the applicable interest rate earned by the retirement trust fund. The EARLY WITHDRAWAL has been funded by the DoD annual accrual payments over the servicemember's career.

9. That the servicemember should have access to the EARLY WITHDRAWAL after reaching the applicable length of service (EARLY WITHDRAWAL eligibility point). To make the money available to servicemembers at the time of eligibility, the proposed legislation should be structured to allow for a low rate, interest-only loan to the members of about 70 to 75% of the EARLY WITHDRAWAL. The remainder should be held to protect their ability to pay taxes following retirement. Further, the legislation should provide for 10-year averaging of the EARLY WITHDRAWAL. This should be carefully coordinated with the Internal Revenue Service to facilitate the legislative process.

10. That, if the Congress failed to fund the accrual payments properly, the proposed legislation should include the provisions for the affected cohort group to be paid an increased multiplier to compensate for the loss.

11. That any modification to the current system be structured to reduce or overcome the force impact of past implementation of the HI-3.

12. That those servicemembers on active duty at the time of implementation of a modified retirement system should retain the option of computing their initial retired pay under the current system. The option of electing the modified system in toto should be limited to those current servicemembers with 12 or less years of service.

13. That no modification be made to the current system that changes vesting to either an earlier or later time, or both.

14. That the system remain non-contributory for the servicemember.

15. That no explicit integration with social security be undertaken.

16. That the Grace Commission Uniformed Services retirement proposals be disregarded because of their unacceptable degradation of the force structure.

17. That a review be undertaken of the viability for mobilization of those DoD non-disabled retirees receiving VA disability payments who are under the age of 60 and who have been retired for ten or less years.

18. That a study similar to the 1976 Reserve Compensation System Study (RCSS) be undertaken in view of increased emphasis on the shift of active duty responsibilities to the reserve forces.

19. That full inflation protection be continued for disability retirement and survivor(s) benefits.

II. OVERVIEW.

A. PURPOSE. This study is intended to provide a thorough analysis of the Uniformed Services retirement system and its associated benefits. The study is to determine to what extent the existing system contribute to our national defense and, on the basis of that determination, to recommend whether it should be preserved, strengthened, restructured or eliminated.

B. ASSUMPTION. The national policy of the United States will continue to require an armed force of the approximate size of our current force. Short of a national emergency being declared, the force will be manned without conscription. Prime consideration will be given to manning the force with high quality personnel in consonance with current and future development and deployment of high level technology military equipment.

C. SCOPE. On 30 September 1983, within the Department of Defense, there were 2.1 million active duty regular and reserve personnel, 0.9 million drilling reservists, 1.2 million retired non-disability annuitants, 0.14 million disability annuitants, and 89,000 survivor benefit families. Fiscal year 1983 retired appropriation outlays totaled \$15.95 billion. This included \$0.47 billion for survivor families, \$1.38 billion for disabled retirees, \$1.06 billion for National Guard and Reserve retirees (Title III) and the balance of \$13.04 billion for non-disabled active duty retirees. In the latter category, the FY83 average gross monthly annuity for non-disabled officers was \$1,917 and \$837 for non-disabled enlisted personnel. Similar FY83 data for the three non-DoD Uniformed Services indicated that the Coast Guard had 39,708 active duty personnel, 18,850 non-disability retirees and 4,227 disability retirees with annuity costs of \$281.0 million, and 1,908 survivor families with a cost of \$10.4 million, for a total of \$291.4 million. The Public Health Service had a total of 5,637 commissioned officers on active duty. There were 1,763 non-disability retirees with annuity costs of \$53.3 million, 210 disability retirees with annuity costs of \$4.9 million and 249 survivor families with costs of \$2.8 million, for a total of \$61 million. There were 370 commissioned officers on active duty in the National Atmospheric and Oceanic Administration, 109 non-disability retirees with annuities of \$3.2 million, 26 disability retirees with annuities of \$0.58 million and 36 survivor families costing \$0.35 million, for a total of \$4.13 million.

D. DATA SOURCES. The primary sources of data were the seven Uniformed Service staffs and the Defense Manpower Data Center (DMDC). Contractor support was provided by Systems Automation Corporation (SAC) to convert and update an existing computer model for use in steady-state force and cost analysis. Systems Research Applications Corporation (SRA) conducted an analysis to determine officer and enlisted personal discount rates. Coopers and Lybrand (C&L) performed significant analysis of post-service retiree and separatee earnings based on longitudinal earnings data from the Social Security Administration, Bureau of Census, and Internal Revenue Service. Hay Associates provided a thorough analysis

of comparative Service and civilian retirement benefits. The National Defense University, as tasked by the Joint Chiefs of Staff, completed an analysis of several foreign military retirement systems and conducted a separate study of the mobilization aspects of the pool of retired manpower.

E. STEERING GROUP. A Steering Group was formulated for the purpose of providing high level guidance and review. Its membership was comprised of the Assistant Secretary of Defense (MRA&L), the Deputy Assistant Secretary of Defense (MP&FM), the Department Assistant Secretaries for manpower, the senior manpower and personnel representatives of all the Uniformed Services and the J-1 of the Joint Chiefs of Staff. Detailed information pertaining to Steering Group activities may be found in Volume IV.

F. RELATED ISSUES. The retirement system is the major part of the Uniformed Services Estate Program. The Estate Program also includes six additional elements which provide either compensation or one-time benefits to the survivors of those who die while on active duty or while in a retired status. These benefits are identified and evaluated in detail in Volume II of this report.

G. GENERAL OBSERVATION. This evaluation of the Uniformed Services retirement system is the most comprehensive to date. Further, it is the first having a capability to assess the impact of a benefit level change on projected force composition -- the most important measure of mission readiness and sustainably. It provides a solid analytical basis for measuring both the positive and negative impacts that are projected to occur should retirement benefit levels be changed.

III. STUDY FLOW PLAN AND METHODOLOGY.

A. STUDY FLOW PLAN. The study flow plan depicted in Figure III-1 represents the general progression of this study leading from the conceptual and planning stages through data gathering and compilation, to analysis, findings and recommendations.

B. METHODOLOGY.

1. General. The non-disability retirement system was analyzed from the perspective of each of its stated purposes. The primary means of measurement were the Services' manpower force structures. The basis of this approach is a steady-state baseline, or theoretical force which reflects the desires of the Uniformed Services to continue personnel on active duty until their usefulness, i.e., marginal utility, to the active component is considered essentially complete. Since the baseline force is unconstrained by compensation policy or historic continuation patterns, it represents the ideal blend of personnel by paygrade, years of service and occupational group that meets the Service-defined needs. Various econometric modeling techniques were used to analyze each force structure and assess the effectiveness of both the current and alternative retirement systems.

2. The Modeling Effort. Several aspects of the force were scrutinized through the use of various existing and QRMC-enhanced computer models. (A detailed discussion of these models can be found in Section IX of this volume). A sampling of these aspects are discussed below.

a. Actual Retention. Actual retention of servicemembers for the seven-year period FY76-FY82 was the basis for creating a profile by years of service (YOS) for a 2.1 million sized force (1.8 million enlisted personnel). This profile was used to determine the nature and extent of changes in the total compensation system on the force, primarily on accessions and career personnel (5-30+ YOS). These data were used to provide all the necessary retention information for the Annual Cost of Leaving (ACOL) model. The longest possible average was used because retirement is a long term management tool.

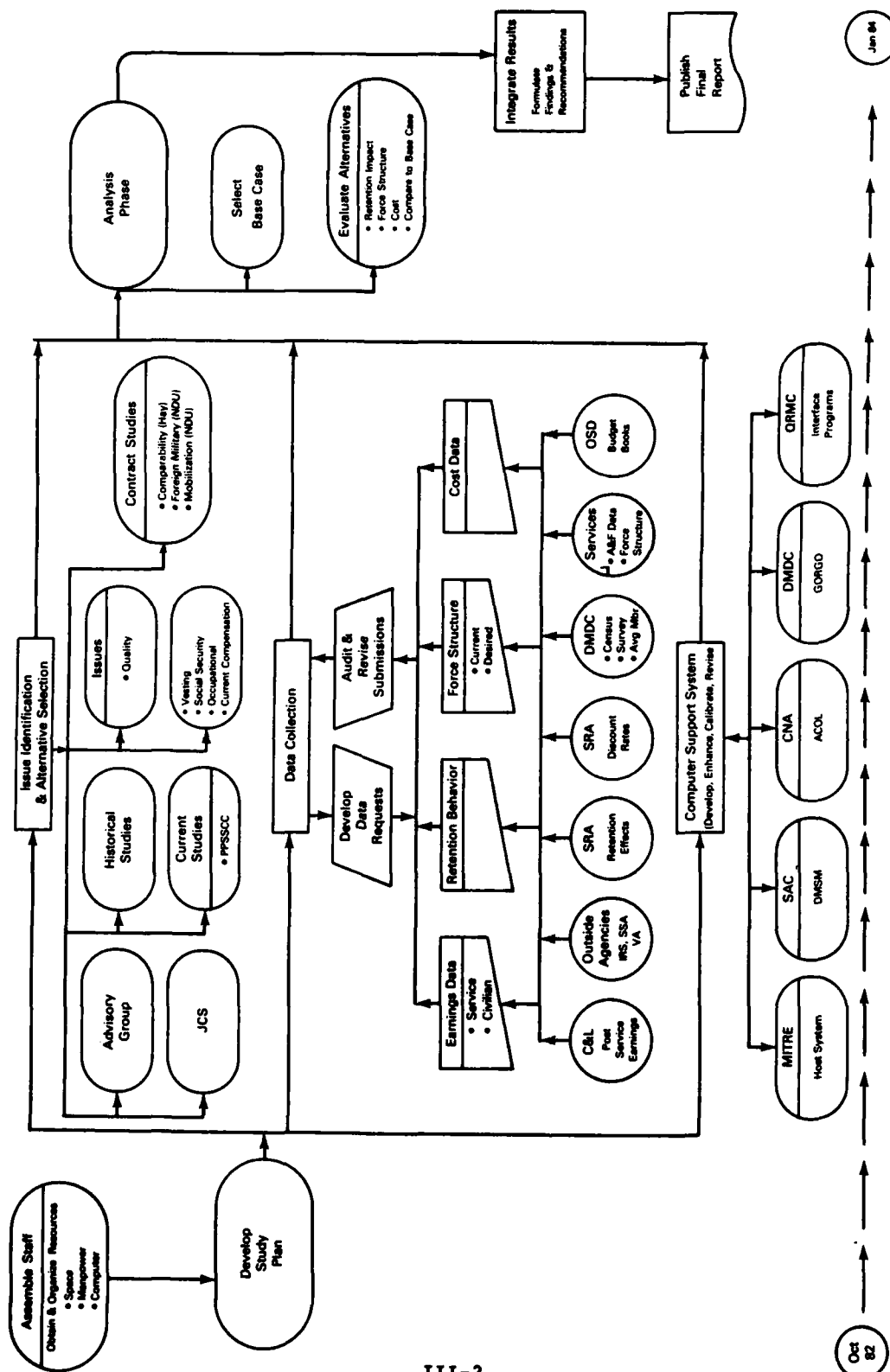
b. Comparative Civilian Earnings. Expected civilian earnings for members leaving the Service were determined from calendar year 1982 Internal Revenue Service and Social Security Administration data and from the 1980 Census. These data provided the basis for comparing civilian veterans' income streams with Service earnings streams. This comparison was conducted on both the aggregate and the occupational level.

c. Retention Projections. Servicemembers' stay/leave decisions were projected based on an examination of the relative value of all future earnings possibilities (Service as compared to civilian) for all individuals in each year-of-service cell.

3. Mobilization. Various analyses were conducted to examine the flow of active duty personnel into various steady-state loss categories (i.e., death, separation, transfer into the Reserve Components) in order to evaluate its impact on the Services' ability to support mobilization requirements.

4. Findings and Recommendations. The Uniformed Services retirement system findings and recommendations were based upon the total analytical effort. Any proposed changes or modifications to the current system are believed to be in the best interest of the individual member, the taxpayer and the Nation.

Figure III-1
Uniformed Services Retirement System Flow Plan



IV. DESCRIPTION.

A. SCOPE. The Uniformed Services retirement system applies to all uniformed members of the Army, Navy, Marine Corps, Air Force, and Coast Guard (administered by the Department of Transportation), as well as to the commissioned officers of the Public Health Service (administered by the Department of Health and Human Services) and of the National Oceanic and Atmospheric Administration (administered by the Department of Commerce). It is not an old-age pension system similar to those normally found in the private sector. Rather, it is a system specifically designed to complement the management of the active and reserve forces, and functions as an integral part of the Uniformed Services pay and allowance compensation structure. The basic purpose is to support the defense requirements of the Nation. It is not subject to the provisions of the Employee Retirement Income Security Act (ERISA) enacted by Public Law 95-595, U.S.C. 31, although each government agency adheres to the reporting requirements of ERISA by producing an annual valuation report. The retirement system key provisions are:

1. Non-disability retirement after at least 20 years of active service and at any age.

2. Disability retirement (with similar provisions).

3. Reserve Components retirement (with parallel but not exact provisions).

4. Optional contributory survivor benefit protection through retired pay reductions for retirees and retirement-eligible reservists.

5. Cost-of-living adjustment protection for both retired pay and survivor annuities.

6. No contributions by the members of the Uniformed Services and no retirement trust fund (change effective FY85).

7. No vesting prior to 20 creditable years of service for retirement purposes (except for disability-eligible retirements).

8. Interrelationships with Social Security, Veterans Administration benefits, and other Federal service.

9. Recall authority, limitation on post-Service activity, retention of military status, and subjection to the Uniform Code of Military Justice (UCMJ).

B. LEGISLATIVE AUTHORITY.

1. Department of Defense: Various provisions of Title 10, United States Code (U.S.C).

2. Coast Guard: Various provisions of 10 U.S.C. and 14 U.S.C., Chapter 11.

3. Public Health Service Commissioned Corps: Various provisions of 42 U.S.C., Chapter 6A, Subchapter I.

4. National Oceanic and Atmospheric Administration Commissioned Corps: Various provisions of 33 U.S.C., Chapter 17, Subchapter I.

V. PURPOSE. The Uniformed Services retirement system supports and complements the manpower force management requirements of the Services in meeting the national security objectives. It is designed to help ensure that the following vital needs are fulfilled:

A. To maintain young, vigorous and mission-ready forces capable of operating efficiently both in times of peace and war by providing for a continuing flow of officers and enlisted personnel through the Services' required personnel structure.

B. To establish the choice of a career in the Uniformed Services as a reasonably competitive alternative by providing a measure of financial security after release from active or reserve duty (retirement) for servicemembers and their survivors; and

C. To support a mobilization base of experienced personnel subject to recall to active duty during time of war or national emergency.

VI. CURRENT ENTITLEMENTS. The Uniformed Services retirement system consists of a non-disability retirement system for extended active duty of 20 years or more, a non-disability retirement system for qualifying members of the Reserve Components, a disability retirement system for active duty members and for members on active duty for training who are determined to be unfit to perform the duties of their office or grade because of a permanent disability. There is no vesting of retirement benefits for members of the Uniformed Services who do not meet the prerequisite for an annuity, but there is a system of non-disability and disability severance pays to provide a lump-sum payment to certain members who are involuntarily discharged short of retirement eligibility. The system of severance pays is separate from the retirement system, although they are clearly integrated in terms of eligibility criteria. These payments are intended to assist the member in readjusting to civilian life. The following sections will define the eligibility criteria and the method of determining the benefit level for each category of entitlement and the current conditions and methods for adjusting the basic benefit level.

A. NON-DISABILITY RETIREMENTS. There are two broad categories of non-disability retirements. The first category, termed Non-Disability Retirement from Active Service, includes retirements from active duty of regular and non-regular commissioned officers, warrant officers, and enlisted members. The second category, termed Reserve Retirements (formerly called Title III Retirements), includes retirement of members of the Reserve and National Guard.

1. Non-Disability Retirement from Active Service. Eligibility for voluntary retirement occurs when regular or non-regular service-members have accumulated 20 years of active service in the Uniformed Services, provided retirements with less than 30 years of service are approved by the Secretary of Defense. For enlisted members, certain lost time due to desertion, unauthorized absence, confinement (except in the case of no subsequent conviction) and absence or incapacitation due to misconduct is excluded from accumulated active service. In the case of medical and dental officers, certain service performed under contract may also be included in the accumulated active service. Voluntary retirements for officers with 20-30 years of service are subject to Service Secretary approval, and for officers with 30 to 40 years of service, the retirement is at the discretion of the President. Officers with 40 or more years of service and enlisted members with 30 or more years are retired at their request. Members of the Navy or Marine Corps who transfer to the Fleet Reserve after completing at least 20 years of service but before completing 30 years of service, receive retainer pay in lieu of retired pay until they are placed on the retired rolls at the time they would have completed 30 years of service.

Involuntary Non-Disability Retirement from Active Service may occur under certain circumstances. Officers in grades O-2 through O-4 who are twice deferred for promotion to the next higher grade are retired, if otherwise eligible, within 6 months of approval by the President

of the promotion board which considered them for the second time. However, officers within 2 years of retirement eligibility (the "sanctuary") on the day they would be separated otherwise are retained on active duty until qualified for retirement and then involuntarily retired. There are provisions of the law which permit the Services to convene a board to selectively retain officers deferred for promotion (except O-2's twice deferred to O-3). Officers in the grade O-3 may be selected for retention by such a board but not beyond the last day of the month in which 20 years of active commissioned service is completed unless they are subsequently promoted. Likewise, O-4's may be selected for retention but not beyond 24 years of service unless subsequently promoted. Officers are discharged or involuntarily retired if eligible, at the end of the extension period, unless this point places them within 2 years of qualifying for retirement benefits; in this case they are permitted to remain until retirement eligibility. Officers in the grade of O-3 or O-4 who are selected for retention may decline the offer. Officers in the grade of O-5 are retired involuntarily upon completion of 28 years of service if not selected for promotion to O-6, and O-6's are involuntarily retired upon completion of 30 years of service if not selected for promotion to O-7. Officers in the grade of O-5 or O-6 may also, under certain circumstances, be selectively retained, if they are selected by a board convened for making such selections. Officers in the grade of O-7 are involuntarily retired upon completion of 30 years of service, or the fifth anniversary of their appointment to that grade, whichever is later. Officers in grade O-8 are involuntarily retired upon completion of 35 years of service or the fifth anniversary of their appointment to O-8, whichever is later. Involuntary retirements of officers in grade O-7 or O-8 may be deferred by the Service Secretary concerned. Deferrals of retirement may not exceed 5 years, or the date of the officer's sixty-second birthday, whichever is earlier. Finally, the Services have the authority to select certain officers for earlier retirement than required as described above. Officers in grade O-5 twice deferred for promotion to O-6, O-6's with at least 4 years in grade, and O-7's with at least 3 and one-half years in grade may be identified for earlier involuntary retirement, if they have not been selected for the next higher grade. No officer may be considered for early retirement more than once in any 5-year period.

Servicemembers may also be involuntarily retired by age factors. Generally, regular commissioned officers and warrant officers are retired on their 62nd birthday, unless individually deferred by the President in the case of officers above the grade of O-7, and by the Service Secretary for all others. There are limitations on the number of deferrals operative at any one time.

Warrant officers with 30 years' service or more are subject to involuntary retirement unless deferred by the Service Secretary concerned. Limitations on the number of deferments also apply to warrant officers. The Service Secretary concerned may defer a retirement, with the member's consent, so long as the member is retired before age 62 years and 60 days.

a. Retired Pay Calculation. Members are entitled to have their initial retired pay calculated by one of two basic methods. The highest amount calculated by these two methods becomes the basis for determining all future retirement entitlements. Certain changes have been made to the computation methodology which have created exceptions that will be explained after the two basic methods are presented. Some authorized variations are transitions from methods previous allowed, while other variations are intended to permanently replace current methods. This section will also address the basis and application of adjustments to retired pay subsequent to the determination of the initial retired pay. No matter what method is used, only basic pay determines the amount of retired pay. Special pays and allowances do not contribute to the retirement benefit of servicemembers.

First, retired/retainer pay may be calculated based on the pay scale in effect on the first day of retirement or transfer to the Fleet Reserve. The amount used from the pay table is the basic pay determined by the grade and years of active service creditable on the date of retirement. Title 5 U.S.C., Section 5308, limits basic pay to that of Level V of the Executive Schedule. So, for very senior officers the base is \$5,499.90, the limit as of 1 January 1984, even if the pay table exceeds this amount. The base amount is multiplied by 2.5 % for each year of service; for example, an individual with 20 years of service is entitled to 50% of basic pay. Presently, service time is measured by adding 1/12 for each full month of service in addition to the number of full years of completed service before multiplying by 2.5%. The result of these computations may not exceed 75% of the basic pay amount used in the computation. The amount computed, if not a multiple of \$1, is truncated to the next lower whole dollar.

Second, retired/retainer pay may be calculated based on any previous active duty pay scale in effect on or after 1 January 1971 at the member's grade and years of service applicable under that former pay scale and according to the method of computation in effect at that time. Members using this method are also restricted to using only pay scales in effect while they were eligible to retire. This initial amount of retired/retainer pay is then increased by any cost of living adjustments (COLA) to retired pay that have occurred since that time. By using this method, members are assured of receiving no less in retired pay than they otherwise would have been entitled to receive if they retired earlier, thereby avoiding a financial penalty in retired pay by virtue of continued active service. This provision of law is known as the "Tower Amendment." It currently applies only to a few active duty members with more than 30 years of service and near the pay caps on active duty pay that are required by Title 5 U.S.C., Section 5308.

Members eligible to retire on 24 September 1983 may "look-back" to one preceding pay scale and compute retired pay from the basic pay tables in effect at that time (with application of retired pay adjustments that have occurred in the interim). Unlike the Tower provision, this method could be used by any member, including those who were

ineligible to retire at the earlier time, and is based on grade and longevity at actual retirement rather than at the grade and longevity applicable under the preceding pay scale. This method is of benefit to members when the rate of retired pay adjustments are large relative to their rate of increase in active duty pay. This method was previously available to all retirees, but is now only for those who were eligible to retire on or before 24 September 1983. If such members do not retire on or before 24 September 1986 they may not use this method, but their retired pay will not be less than it would have been if they retired on 23 September 1986. Members ineligible for retirement on 24 September 1983 may not use this method.

The retired/retainer pay of persons who first become members of the Uniformed Services after 7 September 1980 is computed in a different manner. Such members are still entitled to 2.5% for each year of service creditable for retirement, but the base of computation is the average of the highest 36 months of basic pay actually received rather than the basic pay at time of retirement for members with the same grade and years of service. Three factors that produce a difference in the amount computed by using this method are pay changes caused by grade change, continued service or adjustments to active duty pay required to maintain adequate retention.

b. Adjustments to Retired Pay. Cost-of-living adjustments to amounts of initial retired pay have been provided to ensure that the purchasing power of initial retired pay remains responsive to changes in the cost of living. Cost-of-living adjustments apply whether initial retired pay is calculated using the first or the second method (Tower) or any variation as described above. Uniformed Services retired pay percentage increases are linked directly to Civil Service retirement annuity increases. Each time there is an increase in Civil Service annuities, there is an equivalent percentage increase in the Services' retirement pay. Increases are based on the change in the Consumer Price Index (CPI) published by the Bureau of Labor Statistics. The percent change in the index is rounded to the nearest 1/10 of one percent and the base index for future adjustment becomes the new index upon which the current adjustment is made. Such an adjustment is made to the gross retired pay of all Uniformed Service retirees except those new retirees who have had no previous CPI adjustment to retired pay and who have retired on the current pay scale. The reason for a different method for these retirees is that basic pay tables (used in determining initial retired pay) may provide inflation protection at a different point in time than the retired COLA. Thus, it may be possible to permanently lose or gain significant purchasing power depending on the timing of the basic pay and retired pay increases. The first adjustment to retired pay is computed by calculating the percent increase in the CPI between the CPI for the month preceding the month of the most recent basic pay increase used to calculate initial retired pay, and the CPI used in determining the first adjustment to retired pay. Every subsequent adjustment to retired pay is calculated using the normal procedure.

All Uniformed Services annuities are presently adjusted annually for inflation. Cost-of-living adjustments (COLAs) are scheduled to occur every twelve months on March 1st, to be reflected in payments made at the end of that month. The cost-of-living increase effective March 1st is computed by calculating the percentage increase (adjusted to the nearest 1/10 of one percent) in the Consumer Price Index from the previous December to December. The index used is the CPI for Urban Wage Earners and Clerical Workers as computed by the Bureau of Labor Statistics.

Public Law 97-253 created a three-year temporary deviation to the calculation and timing of COLAs. For fiscal years 1983, 1984, and 1985, increases take place, in April, May, and June, respectively. Full COLAs are still calculated, but non-disabled retirees under age sixty-two have their retired pay adjusted by 3.3% plus the total amount (if any) that the full COLA exceeds 6.6%. In FY84 though, non-disabled retirees under age sixty-two will have their retired pay adjusted by 3.6% plus the total amount that the full COLA exceeds 7.2%. All other retirees will receive full COLAs during these years.

c. Offsets to Retired/Retainer Pay. The methods described above are used to determine the gross retirement benefit. There are offsets and reductions that are then applied to determine the net monthly retired pay. Deductions also occur (for example, tax withholding) but will not be explained in detail here. There are four offsets or reductions that may apply to certain members: (1) Veterans Administration Benefits, (2) pay caps, (3) Dual compensation offsets, and (4) Survivor Benefit Plan reductions. Survivor Benefit Plan (SBP) reductions apply to all members choosing to participate and are not addressed here. The reader is referred to Volume II of this report for a discussion of the Survivor Benefit Plan.

Veterans Administration (VA) offsets occur when either non-disability or disability retirees are awarded VA disability compensation. Retired/retainer pay is offset by an amount equal to the VA disability compensation. Retirees may be classified as non-disability retirees by DoD, but be eligible for VA disability benefits even though DoD and VA use the same schedule for determining disability. Service-connected disabilities are rated independently by DoD and VA but against different criteria. The DoD evaluation is against the ability to perform military duty. The VA determination is against interrupted earning capability resulting from a Service-connected condition. The standards cannot account for every eventuality and, thus, there is room for subjective judgments. This may result in situations where DoD rates a retiree's condition as non-disability, but the VA rates the condition at some higher level of disability. Moreover, DoD only rates a member's condition once, at the time of retirement, which may indicate no disability; but the VA allows reevaluations. If a condition that was not rated as a disability at the time of retirement worsens, then the member may become entitled to VA benefits. Although Title 38 U.S.C., Chapter 53, prohibits duplication of benefits and requires that retired pay be

reduced by an amount equal to the VA compensation for Service-connected disability, it is frequently advantageous for members to accept the VA benefit because it is exempt from Federal income tax.

Dual compensation laws apply to regular component retired officers working in Federal Civil Service. Title 5 U.S.C., Section 5532, stipulates that the retired pay for these persons be limited during periods when they are employed by Civil Service. The total annual retired pay cannot exceed \$6,736.60 (dual compensation deductible) plus half of the annual retired pay that is in excess of \$6,736.60 for officers having a position in Civil Service for the entire year. The dual compensation deductible is divided by 12 and applied to monthly retired pay. Thus, the offset also applies to those employed by Civil Service for parts of a year. For FY83, FY84, and FY85 an age factor is operable. The offset is used for non-disabled retirees under age 62. For retirees over age 62, the amount used is \$6,775.79. These figures are adjusted periodically based on changes in the CPI. Dual compensation offsets apply after any VA offset to gross retired pay.

Dual compensation also applies to all retired members (5 U.S.C. 532(c)), as expanded by the Civil Service Reform Act of 1978, effective January 1979). If the combination of retired pay and Civil Service wages is equal to or greater than Executive Level V rates, retired pay is reduced, but not below an amount necessary to cover the costs of Survivor Benefit Plan (SBP) participation. For example, after dual compensation and VA offsets are applied to gross retired pay, the resulting amount when combined with Civil Service income may not exceed \$5,499.90 monthly, the current Executive Level V maximum. If it does, retired pay is reduced until the combined amount is \$5,449.90. If this causes retired pay to be reduced below that necessary to cover SBP premiums, the pay-cap deduction would be lowered to leave enough pay to cover these premiums.

The interaction between VA benefit adjustments for inflation and Uniformed Services CPI adjustments, in combination with the offset mechanism described above, requires further explanation. Uniformed Service annuities are linked to Civil Service annuities by law and normally occur in March of each year. On the other hand, VA benefits are not automatic in frequency or manner of adjustment. However, they are normally adjusted in October of each year and based on the CPI. Because of the timing of CPI adjustment and the method of offset, retirees whose retired pay is close to their VA benefit automatically switch from a VA benefit to a DoD annuity (offset by the existing VA benefit that such retirees are entitled to receive) in March, if the CPI adjustment to DoD annuities results in a total monthly DoD annuity that is greater than the VA monthly compensation. In October, when VA benefits are normally adjusted, they may switch back to VA and receive DoD retired pay if the new VA benefit exceeds the retired annuity amount. The cycle may continue as long as the two annuities are close in value.

2. Reserve Retirements. Title 10 U.S.C., Chapter 67, establishes retired pay for non-regular service. To be entitled to retired

pay under this chapter, a person must make application, having earned credit for at least 20 years of satisfactory service (the last 8 years credit of which must be in a Reserve Component), and be at least 60 years old. Each anniversary year in which members earn 50 or more retirement credits (points) constitutes 1 year of satisfactory service toward meeting eligibility for retirement under this system. One point is earned for each day of active duty or active duty for training, and a point is earned for each attendance at a drill. Attendance at drills is not considered active duty, but 2 drills of at least 4 hours in duration conducted within the same calendar day may earn the person 2 points. Additionally, 15 points per year are awarded for National Guard and Reserve membership. Officers who have completed the requirements described above but are not 60 years of age may elect one of three alternatives: first, they may continue to participate in the Reserve Component, including active duty and/or drills; second, they may request a transfer to the retired list; or third, they may request discharge. Except in the third case, records are maintained in personnel files and their retirement benefits can be anticipated, albeit the member must apply for retirement benefits. Discharged members are no longer tracked until they submit applications for retired pay.

Retired pay for Reserve Retirements is calculated in much the same way as Non-Disability Retirement from Active Duty. Retired pay is computed based on the pay scale in effect on the first day of retirement (e.g., upon reaching age 60). If members earn 20 years of satisfactory service before reaching age 60 and do not maintain qualification in the Reserve Components, they are still entitled to use the pay scale in effect when they are entitled to retired pay at age 60. Two factors, grade and longevity, determine the base amount from the pay scale that is used in calculating the gross reserve retired pay (before offsets and reductions). Grade is the highest grade held at any time in the Uniformed Services. Longevity is the accumulation of all creditable service. Creditable service includes both active and inactive service in a Regular or Reserve Component of any Uniformed Service. Members who have earned 20 years of satisfactory service, for the purpose of determining entitlement to retired pay, who do not maintain their qualification in their respective Reserve Component and have not reached 60 years of age, are given credit for inactive service for that period. Hence, the amount used in determining retired pay includes protection for cost-of-living and wage growth. Grade and longevity thus determined are used to establish the base for the remaining calculations that set the members' initial retired pay.

The amount of pay determined by grade and longevity is multiplied by 2.5% for each year of equivalent service. The number of years of equivalent service is determined by a method different from those used to determine the years of longevity or the years of satisfactory service described above for active servicemembers. Years of equivalent service are determined by crediting members with one day for each day of active duty; one day for each day of fulltime service while performing annual training of or by the National Guard; one day for each drill

attended; and 15 days per year for membership in the Reserve Component. However, a maximum of 60 days per year may be credited based on attendance at drills and membership. Members of the National Guard and Reserves before July 1, 1949 are also credited with earning 50 days per year for each year of service in a Reserve Component before that time. The sum of all days earned are divided by 360 to determine the number of years of equivalent service. The result of the multiplication determines the gross retired pay, except that gross retired pay may not exceed 75% of the pay upon which the computations are based. Once this initial amount of retired pay is determined, offsets and CPI adjustments apply in the same manner as Non-disability Retirements from Active Service.

B. DISABILITY RETIREMENTS. Disability retired pay is authorized by Title 10 U.S.C, Chapter 16, to continue payments to members separated from active service because of physical disability. It assures such members that, if they are ever disabled in the service of their country, they will not be left to cope with the effects of their disability on their own. It is also authorized in recognition of the need to provide some measure of economic security for personnel whose duties necessarily expose them to the hazards of wartime and career service.

Members unfit to perform the duties of their office or grade, rank or rating, because of a permanent disability may be retired if the disability is not the result of intentional misconduct or willful neglect and was not incurred during a period of unauthorized absence. Disabilities are rated in accordance with the Veterans Administration schedule of disabilities on a percentage basis. Members with over 20 years of service can qualify for disability retired pay provided the above conditions are met. In addition to these conditions, members with more than 8 but less than 20 years of service must have a disability of at least 30% to qualify for disability retired pay. Members with less than 8 years of service must satisfy these conditions plus one other condition. Namely, the disability must have been either the proximate result of performing active duty or have been incurred in the line of duty. Finally, for members on active duty for less than 30 days, the disability must have resulted from an injury that is the proximate result of performing active duty or inactive duty training. These criteria apply to regular and non-regular members on active duty or inactive duty training.

Disability retired pay is computed the same as non-disability retired pay. DoD also calculates what retired pay would be if it were determined by multiplying monthly basic pay by the percentage of disability on the date when retired. The member automatically receives retired pay based on the most advantageous method. In any case, the retired pay cannot exceed 75% of the pay on which the computation was based. Retired pay computed on the basis of percentage of disability is wholly exempt from Federal income tax, according to Internal Revenue Code (Title 26 U.S.C.). Disability retired pay computed on the basis of years of service is subject to Federal income tax to the extent that it exceeds the pay such persons would have received had their pay been computed on the basis of percentage of disability. Once the initial

amount of retired pay is determined, CPI adjustments and offsets apply as described previously.

Members who would be qualified for permanent disability retirement if the permanency of their disability could be positively determined, can be placed on the temporary disability retired list (TDRL) if accepted medical principles indicate that it may be permanent. Members on the TDRL have the same retired pay entitlement as members permanently retired for disability, except that there is a 50% floor as well as a 75% ceiling on temporary disability retired pay. Members on the TDRL must be physically examined at least once every 18 months to determine whether there has been a change in their disability and whether the disability is permanent in nature. A final determination on permanency must be made within five years of the member's placement on TDRL. If a periodic or final physical examination shows that a disability is permanent and is rated as 30 percent or more, or if the member has at least 20 years of service, the disability retirement becomes permanent. If it is determined that their disability is permanent but is rated as less than 30 percent for members with less than 20 years of service, they are removed from TDRL, separated from the service, and given disability severance pay. If it is determined that they are physically fit to perform duties, they must be removed from TDRL with a concomitant cessation of disability retired pay. After this, with their consent, they may be reappointed or reenlisted on the active list or permanently separated without entitlement to either disability, retired, or severance pays.

C. SEPARATION/SEVERANCE PAY. A system of non-disability and disability separation pays is authorized by law. It provides a lump-sum payment to certain members involuntarily discharged short of retirement eligibility to assist such personnel in readjusting to civilian life. This system is separate from the retirement system for fiscal purposes, but is integrated based on eligibility of persons affected.

Non-disability separation pay is a contingency payment for officers who are career committed but to whom a full Service career may be denied. It is designed so that if they are denied a full career, they can expect an adequate readjustment pay to ease reentry into civilian life. Officers are usually eligible for this pay if they have completed more than 5 consecutive years of active service immediately before the discharge, but are ineligible for retired pay, and the discharge is for failure of selection for promotion. Non-regular members may also be eligible, if involuntarily released from active duty, but it is not required that such members have been discharged for failure of selection for promotion. Separation pay for non-disability is computed by taking 10 percent of the product of a member's years of service and 12 times the monthly basic pay at the time of discharge. The amount may not exceed \$30,000.00.

Disability severance pay is authorized for all members of the Uniformed Services not eligible for retired pay who are separated from active duty because of a disability that, while substantial enough to

adversely affect their abilities to perform the duties of their office or grade, does not qualify them for a disability retirement from the Service (i.e., the disability is rated at less than 30%). The amount of disability severance pay is computed by multiplying the members' years of service (up to a maximum of 12) by twice the monthly pay that they would have been entitled to receive. The members' VA disability benefits (if any) are reduced by the amount of disability severance pay. The manner in which the VA benefits are reduced may be determined by the VA.

VII. BACKGROUND.

A. LEGISLATION. Provisions for the maintenance of disabled servicemembers date to colonial days. The Pilgrims at Plymouth provided in 1636 that any man sent forth as a soldier and returned maimed should be maintained by the colony during his lifetime. In order to obtain enlistments in military expeditions against the Indians, the colonies promised to care for those who became disabled and had no means of earning a livelihood as well as providing aid for the indigent families of those fallen in conflict. The practice of providing special compensation to persons disabled while performing military service can be traced to some of the earliest enactments of the Federal Congress. Some of the early precedents were continued in the first national pension law of August 26, 1776, which promised half pay for life, or for the duration of the disability. After the Revolutionary War, a full disability pension for noncommissioned officers or private soldiers was fixed at five dollars per month. Commissioned officers were paid at one-half of their monthly pay. Initially, the States administered the disability pensions. In 1790, the Secretary of War became the principal pension administrator. The Act of April 30, 1790 (1 Stat. 121) allowed the placement of disabled military personnel on a "list of invalids of the United States." While on this "invalid" or pension list, officers could receive up to one-half of their "pay," and enlisted personnel could receive up to \$5 a month for life. Until 1855 this system was the sole means by which disabled military personnel who left active service could be compensated.

Pensions based solely on service (non-disability) were more controversial. Annuities of half-pay for life had been promised in 1780 by Congress for officers who served to the end of the war. However, the resulting claims were initially settled for less than full value and with a considerable amount of controversy. As the number of veterans declined and the treasury increased, Congress became more generous. The Act of March 18, 1818 provided relief to Revolutionary War veterans in need. By 1832, it became full-pay for life, regardless of need. In 1836, widows were included. This same pattern was followed for Service pensions for subsequent wars. However, each war was treated separately. Except for an 1855 statute that provided for the compulsory retirement of certain Navy officers, there was no legislative authority before 1861 that provided for either the voluntary or the involuntary retirement of active duty members of the Armed Forces from military service. The effect of this lack of authority was described many years later in a Congressional study of Army retirement:

The unsatisfactory personnel conditions in the Regular Army which prompted these repeated recommendations of the War Department that Congress provide some form of retirement for the Regular Army were emphasized during the extended field service required over the period 1812-1861. While the law provided a pension of one-half pay for disabled officers, there existed no

provision for compulsory separation from active service of old and disabled officers; there was no limit to active service save by dismissal or resignation of the officer. Thus, an officer could remain on active duty until death, despite incapacity due to old age, physical disability, etc. In consequence, many junior officers exercised commands in the field beyond their rank, the old and disabled officers who should have exercised these commands being left behind--often on leave--whenever field service was performed.

The Act of February 28, 1855 (10 Stat. 616), while not a true retirement statute, permitted the Secretary of the Navy to convene examining boards to determine the capability of officers to "perform their whole duty both ashore and afloat" and to remove any officer determined not capable of such performance from the active list. Though the main purpose of the Act was to remove physically unfit officers from the active list, the following excerpt from a report of the examining board, contained in the Navy 1855 Annual Report to the President, shows that it could also be used to separate officers for non-disability reasons:

An officer may possess a strong mind and a robust frame, yet, if his moral perception of right or wrong be so blunted and debased as to render him unreliable, he could hardly be ranked as the capable officer.

The outbreak of the Civil War brought further changes when it became necessary to retire older officers no longer fit for field duty. The vehicle was the Act of 3 August 1861 (12 Stat. 287), the first major non-disability retirement Act, which provided for the voluntary retirement of regular officers of all branches of Service after 40 years of duty, at the discretion of the President. Subsequent Acts in 1861 (12 Stat. 329) and 1862 (12 Stat. 594) allowed for involuntary retirements for age or years of service. While these laws authorized involuntary retirement, they did not require the Government to exercise it. An officer could be forced to retire after reaching the specified age or length of service, but nothing required relevant authorities to take such action.

The 1861 act also established a military disability retirement system that covered the regular officers of all branches of Service. Army and Marine Corps officers were to be paid an amount equal to their "pay proper" plus four rations. Navy officers were paid slightly more. The Act of 2 March 1867 (14 Stat. 516) was the first law to authorize disability retirement for enlisted personnel. It applied to performance of enlisted service in the Navy and Marine Corps. The Act of June 30, 1941 (Pub. L. No. 77-14, 55 Stat. 394) was the first law to extend disability retirement to Army enlisted personnel.

Congress established two enduring retirement principles while reducing forces to a peacetime basis in 1870, as a part of the Appropriations Acts of July 15, 1870 (16 Stat. 315 and 16 Stat. 321). The first permitted voluntary retirement of officers after 30 years of service upon approval by the President; the second fixed retired pay at 75% of pay of the officer's grade. The 75% applied to Army and Marine Corps officers, both disabled and non-disabled, and was extended to Navy officers in 1873 (17 Stat. 547).

The Act of February 14, 1855 (23 Stat. 305) was the first enlisted non-disability retirement law for the Army and Marine Corps. It was extended to the Navy in 1899 (30 Stat. 1007). The provisions of the law paralleled the officer retirement program by providing for, at the discretion of the Secretary concerned, voluntary retirement at 30 years of service with 75% of pay in which retired plus an allowance in lieu of quarters, fuel and light. The Act of March 2, 1907 (34 Stat. 1217), consolidated the 30-year voluntary retirement authority for the enlisted personnel of all branches of Services into one status.

The Act of August 29, 1916 (Pub. L. No. 64-241, 39 Stat. 579), brought two new principles to the officer and enlisted non-disability retirement systems. First, it established a retirement program integrated with an up-or-out officer selective promotion plan. Second, it initiated use of the formula that, with minor refinements, remains the essential basis for officer and enlisted determinations to retired pay entitlements; namely, 2.5% of monthly active duty pay for each year of service up to 30, or a maximum of 75% of such pay. The Act also introduced the practice of rounding years of service in the computation of retired pay entitlements, under which a partial year of six months or more was counted as a whole year, and a partial year of less than six months was not counted. To alleviate the promotion stagnation problems in the Navy, the law provided for the establishment of selection boards for promotion to Rear Admiral, Captain and Commander on the basis of age in grade. (Service in grade replaced age in grade in 1926.) Those officers not selected for promotion were retired at 2.5% of pay per year of service, not to exceed 75% of pay. This was the first recognition of length of service as well as grade in computation of retired pay.

The Act of 1916 also created the Fleet Naval Reserve, to provide a pool of experienced Naval personnel who could be recalled to active duty in an emergency. While technically different than retirement, the practical effect was that it was possible for enlistees of the Navy and Marine Corps to "retire" with as little as 16 years of service and become entitled to "retainer pay". The Naval Reserve Act of 1925 (Pub. L. No. 68-512, 43 Stat. 1080) fixed the minimum length of active service required for transfer to the Fleet Reserve at 20 years. The retainer pay formula for 20-year transferees was continued at one-half of base and longevity pay. The Act of August 10, 1946 (Pub. L. No. 79-720, 60 Stat. 997), changed the retainer pay formula to the standard rate of 2.5% times year-of-service, up to a maximum of 75%. The Act of October 6, 1945 (Pub. L. No. 70-190, 59 Stat. 539) extended these voluntary retirement provisions to Army enlisted personnel.

By 1938, the Navy was again experiencing promotion stagnation problems caused by the large influx of officers in the World War I years. Almost all of these officers were in the same age and years-of-service groups. The Act of June 23, 1938 (Pub. L. No. 75-706, 52 Stat. 944), revised the Navy's officer selection and retirement process and became the model for the present 20-year non-disability retirement system. To remedy the situation, Congress extended the selection board process to all grades above Lieutenant (junior grade), set limits on years of service for Lieutenant Commanders through Captains, and provided for voluntary retirement at 20 years of service at the discretion of the President.

Following the Act of 1870, the next substantive change in the disability retirement system occurred in the Act of June 4, 1920 (Pub. L. No. 66-243, 41 Stat. 834), which made officers of the Naval Reserve eligible for disability retirement on the same basis as regular officers. This provision, though it was repealed the following year, embodied a new principle. Until then, disabled non-regular officers had been compensated through the veterans' pension system rather than the Service retirement system. The short-lived Navy Act of 1920 had been a tentative step in the direction of placing non-regular officers under the Service disability retirement system. Later, the Act of April 3, 1939 (Pub. L. No. 76-18, 53 Stat. 555), entitled disabled non-regular Army personnel to the same disability benefits provided for regular members. The Act of August 27, 1940 (Pub. L. No. 76-775, 54 Stat. 864), entitled disabled non-regular Navy and Marine Corps officers to the same disability benefits provided for regular officers.

The Act of June 30, 1941 (Pub. L. No. 77-140, 55 Stat. 394), was the first legislation to extend disability retirement to Army enlisted personnel. The Act allowed soldiers with 20 or more years of service to be retired for disability, with pay equal to 75% of their average monthly pay for the 6 months immediately prior to retirement. The 1941 law was the last significant modification to the disability retirement system for all Service personnel until its 1949 revision. At this point, the compensation authorized for disabled Service personnel had evolved into the following:

<u>Categories of Personnel</u>	<u>Army and Air Force</u>	<u>Navy and Marine Corps</u>
Regular Officers	Service Disability Retired Pay-75% of basic and longevity pay	Service Disability Retired Pay-75% of basic and longevity pay
Non-Regular Officers	Veterans Administration "Retirement" Pay-75% of basic and longevity pay	Same as Regular Officers
Enlisted Personnel, 20 or more years' service	Service Disability Retired Pay-75% of 6-months' average basic and longevity pay	Service Disability Pay-50% of basic and longevity pay
Enlisted Personnel, less than 20 years' service	Veterans Administration Disability Compensation based on degree of disability	Veterans Administration Disability Compensation based on degree of disability

NOTE: Any member entitled to Service retired pay could waive all or part of such pay and elect in its place any VA disability compensation based on degree of disability to which entitled.

Following World War II, allegations of unfairness, inequity, and inefficiency in the existing disability retirement system became so extensive that a special subcommittee of the House Armed Services Committee, chaired by Representative Elston of Ohio, was impaneled to investigate them. The recommendations of the "Elston" Committee and the Advisory Commission on Service Pay (the so-called "Hook" Commission), which met at about the same time, led to the revised disability retirement system adopted under the Career Compensation Act of 1949 (Pub. L. No. 81-351, 63 Stat. 802) in which most of the criticized features of the previous system were changed. Under the new system, all disabilities had to be rated under the standard schedule of rating disabilities in use by the Veterans Administration, and the resultant ratings became a factor in disability retired pay entitlement and the taxability thereof. The new system covered officer and enlisted personnel of both the Regular and Reserve Components and authorized temporary as well as permanent disability retirements. The disability retirement system in effect today remains basically unchanged from that adopted in 1949.

Meanwhile, the non-disability officer retirement provisions underwent a degree of standardization in the immediate post-World War II timeframe. The Act of February 21, 1946 (Pub. L. No. 79-305, 60 Stat. 26), lowered the statutory retirement age for Navy and Marine Corps officers from 64 to 62 and permitted voluntary retirement after 20 years of active service, at least 10 years of which were comprised of commissioned service, with retired pay to be computed under the "standard" 2.5% formula. The Officer Personnel Act of 1947 (Pub. L. No. 30-379, 61 Stat. 795) brought the Army and Air Force under a selection process similar to the Navy system. It also provided that those officers who failed promotion and were not eligible to retire would receive severance pay of two months' pay per year of service, not to exceed two years' pay. The Officer Personnel Act of 1947 (Pub. L. No. 30-379, 61 Stat. 795), as amended by the Officer Grade Limitation Act of 1954 (Pub. L. No. 83-349, 68 Stat. 65), was, for nearly 35 years, the main authority for the officer promotion and involuntary retirement systems for the various branches of Service. Although it incorporated all the systems in one piece of legislation, the Act was a product of separate Service planning and policies, and its Army and Air Force program was different from that of the Navy and Marine Corps.

The Army and Air Force Vitalization and Retirement Equalization Act of 1948 (Pub. L. No. 80-810, 62 Stat. 1081) authorized the voluntary retirement of Army and Air Force officers after 20 years of active service, at least 10 years of which were comprised of commissioned service, with retired pay computed by the standard 2.5% formula. This law resulted, for the first time in history, in uniform voluntary retirement authority among the officers of all branches of Service.

Title III of the Army and Air Force Vitalization and Retirement Equalization Act of June 29, 1948 (Pub. L. No. 80-810, 62 Stat. 1087) created a non-disability retirement program for National Guard and Reserve members. The House Armed Services Committee expressed the purpose of the program in these terms:

The underlying purpose in writing this policy as to Reserve components into law is that the retirement benefits will furnish an incentive that will hold men in the Reserve components for a longer period of time. It was stressed by practically every witness who testified on this feature of the bill that the most desirable type of Reserve was a reserve of men with accumulated training. It was also pointed out that the direct monetary emoluments payable to Reserve officers and men were so small that in many instances as the men grew older, became married, and took on family obligations, unless an additional incentive were offered them, they would drop their Reserve training. The reason for this policy is that we now realize that in the chaotic, explosive, and small world in which we live we must have a relatively large group of Reserves, well trained, and able to render help at once in the event of an emergency. We are hoping that the provisions offered in this bill, which to many of us seem liberal, will be an incentive well worth working for. The result should be longer periods of service by Reserves and a larger and better trained force on M-day, should we be so unfortunate as to have another M-day.

The National Guard and Reserve retirement system remains basically unchanged from that enacted in 1948. There have been a number of modifications to it since that time, but the purpose of these has been more remedial than substantive.

The Warrant Officer Act of 1954 (Pub. L. No. 83-379, 68 Stat. 157) established separate retirement rules for warrant officers, including commissioned warrant officers. Under the Act, a warrant officer could be retired at age 62 or upon completion of 30 years of active service, whichever occurred first. Retired pay for warrant officers under the Act was computed at the standard rate of 2.5 % times years of service, not to exceed 75 percent.

In the Defense Officer Personnel Management Act, (DOPMA) adopted December 12, 1980 (Pub. L. No. 96-513, 94 Stat. 2835 et seq.), Congress, after some thirty years of experience with these involuntary retirement and force management provisions, and believing that the apparent differences in the treatment accorded officers in different branches of Service did not, in fact, reflect "actual management needs," set out to provide unified retirement authority in an effort to make the career expectations of members more "clearly defined and uniform across the services."

Before adoption of the Military Personnel and Compensation Amendments of 1980 (Pub. L. No. 96-343, 94 Stat. 1128-1129), only regular enlisted members of the Army and Air Force could retire, after completion

of twenty or more years of active service, with immediate entitlement to retired pay. To remedy this disparity in treatment, and to insure that there were no unnecessary disincentives to enlisted service in the Army and Air Force Reserve, Congress, in the 1980 Military Personnel and Compensation Amendments, authorized twenty-year retirement, with immediate entitlement to retired pay, for Army and Air Force Reserve enlisted members.

The Department of Defense Authorization Act of 1981 (Pub. L. No. 96-342, 94 Stat. 1100-1102) effected the first major change in the computation of retired or retainer pay entitlements since the Army and Air Force Vitalization and Retirement Equalization Act of 1948. Under the 1981 Act, the retired or retainer pay of any member of an armed force who first became a member on or after the date of enactment of the Act is computed on the basis of the member's "monthly retired pay base," or "monthly retainer pay base," as applicable, instead of on the basis of the member's terminal basic pay. In practice, a member's monthly retired or retainer pay base is, in turn, an average of the member's highest three years of basic pay. As noted in the relevant Congressional Report:

The Committee recommends this change because of the high and increasing costs of military retired pay and because of the need to increase pay for military personnel while they serve on active duty instead of after their active duty careers are finished. The use of the highest three years pay instead of just terminal basic pay is the computation used for Federal Civil Service retirement and has been endorsed by the Interagency Committee, the Defense Manpower Commission, and the President's Commission on Military Compensation.

The subject of post-retirement adjustments to retired pay is an issue with major budgetary implications and has received considerable attention in recent years. The history of such adjustments dates to 1870. The Appropriation Acts of July 15, 1870, for the Army and Navy (16 Stat. 315 and 16 Stat. 321, respectively), enacted nine years after the first military retirement system had been created, included a pay raise for officers on the active list. The Acts also provided for an adjustment in the retired pay of officers who were already retired based on the new active duty rates. The Navy Act was especially clear in this regard, stating that retired pay was to be based on "the highest pay prescribed in this act for officers on the active list whose grade corresponds to the grade held by such retired officer." The adjustment of retired pay on the basis of new active duty pay rates has become known as "recomputation" of retired pay. This recomputation was alternately repealed and reinstated in various laws until the recommendations of a special Congressional committee led to the Joint Service Pay Act of 1922 (Pub. L. No. 67-235, 42 Stat. 625), authorizing enlisted personnel on the retired list to recompute their retired pay on basis of the new rates, but prohibited it for officers.

This prohibition was removed by the Pay Equalization Act of 1926 (Pub. L. No. 69-204, 44 Stat. 417), which permitted officers retired before July 1, 1922, to prospectively recompute their retired pay on the basis of the active duty pay rates that had been prescribed effective that date; such officers were not, however, permitted to retroactively reclaim the benefits of recomputation for the period 1922-1926.

The recomputation principle was followed for both officer and enlisted personnel in each of the active duty pay raises that occurred between 1922 and 1949. The Career Compensation Act of 1949 (Pub. L. No. 81-351, 63 Stat. 802) permitted the pay of any retired member to be computed under the higher basic pay rates it established. The Act of May 20, 1958 (Pub. L. No. 85-422, 72 Stat. 122), increased active duty basic pay rates, but prohibited recomputation of retired pay on basis of the new rates. Instead, it provided for a 6 percent cost-of-living increase in retired pay. It is clear from the legislative history of the Act that Congress had not, at this point, determined whether recomputation should be abandoned permanently or whether it should merely be suspended for this particular piece of legislation.

The Uniformed Services Pay Act of 1963 (Pub. L. No. 88-132, 77 Stat. 210) replaced the recomputation system in permanent law with a method of retired pay adjustment based on increases in the cost of living, as measured by the Consumer Price Index (CPI). The permanent shift from a recomputation of a cost-of-living method of adjustment was explained in these terms:

The Committee on Armed Services recognizes the tradition that has attached itself in the past to the method of recomputing retired pay whenever the rates of basic pay for members on active duty are changed. It was not easy in 1958, and it is not easy now, to recommend this break with tradition. Nevertheless, the break was made in 1958 when recomputation of retired pay based on changes in active duty pay rates was not authorized.

The Committee on Armed Services fully realizes the obligation we have to those now retired who have served their Nation. But the committee also recognizes its obligation to those now serving and those who will enter on active duty in the future. The committee cannot disregard the already heavy costs involved in military retirement or the substantial added costs which would result if recomputation were to be retained as a part of the military retirement system.

The adjustment method adopted in the 1963 Act required a determination in January of each year of the percentage increase in the CPI, as measured by the annual average of that index for the year. If the

increase was three percent and stayed up for three months or more, retired pay was to be increased on the first of April. The benefit increase was equal to the percentage rise in the CPI plus one percent. However, the one percent was not added to the increase before 1969.

Effective March 1977, cost-of-living adjustments were scheduled to occur every six months, on March 1st and September 1st, to be reflected in payments issued those months. The cost-of-living increase effective March 1st was computed by calculating the percentage increase (adjusted to the nearest tenth of a percent) in the CPI from the previous June to the previous December. Similarly, the cost-of-living increase effective September 1st was obtained by calculating the percentage increase in the June CPI over the CPI from the previous December. In August 1981, this was changed to a once-a-year cost-of-living increase by eliminating the September increase. Currently, full annual cost-of-living increases are given in March of each year based on the increase in the CPI between the two previous December CPIs.

In August 1982, a three-year temporary deviation to the calculation and timing of cost-of-living increases was created (Pub. L. No. 97-253). In fiscal years 1983, 1984, and 1985, increases were scheduled to occur in April, May, and June, respectively, for non-disabled retirees under age sixty-two.

The FY84 DoD Authorization Act (Pub. L. No. 98-94, Sect. 921-924) impacts retired and retainer pay. Essentially, this Act repeals the one-year look-back provision (10 U.S.C. 104 1a(e), effective September 1983, with a grandfathering provision). It does not affect the Tower amendment (10 U.S.C. 140 1a(f)). Additionally, the Act rounds down to the nearest dollar the initially computed gross retired pay and does affect survivor annuities. Finally, it amends the six-months rounding rule.

A summary of significant statutes affecting non-disability retirements and disability retirements are given below in Table VII-1 and VII-2, respectively. A more detailed discussion of the legislative history of these systems is contained in Appendix A.

Table VII-1

Summary of Significant Statutes Relating to
non-Disability Retirement and Retired Pay

<u>Date and Citation</u>	<u>Action</u>
Feb 28, 1855 (10 Stat. 616)	Authorized involuntary removal of Navy officers from active list for disability and other reasons.
Aug 3, 1861 (12 Stat. 287)	Authorized voluntary retirement of officers of all Services after 40 years of service.
Dec 21, 1861 (12 Stat. 329)	Permitted involuntary retirement of Navy officers after 45 years of service or at age 62.
Jul 17, 1862 (12 Stat. 594)	Permitted involuntary retirement of Army and Marine Corps officers after 45 years of service or at age 62.
Jul 15, 1870 (16 Stat. 317)	Authorized voluntary retirement of Army and Marine Corps officers after 30 years of service.
Jun 30, 1882 (22 Stat. 118)	Made retirement mandatory at age 64 for officers of all Services.
Feb 14, 1885 (23 Stat. 305)	Authorized voluntary retirement of Army and Marine Corps enlisted personnel after 30 years of service.
Mar 3, 1899 (30 Stat. 1007)	Authorized voluntary retirement of Navy enlisted personnel after 30 years of service.
May 13, 1908 (35 Stat. 501)	Authorized voluntary retirement of Navy officers after 30 years of service.
Aug 29, 1916 (39 Stat. 587)	Created Fleet Reserve; authorized voluntary transfer of Navy and Marine Corps enlisted personnel to Fleet Reserve after 16 years of active service.
Aug 29, 1916 (39 Stat. 579)	Established "up or out" promotion system based on age-in-grade and integrated involuntary retirement system; first to use "standard" retired pay formula of 2.5 percent times years of service, up to maximum of 75 percent.
Jun 4, 1920 (41 Stat. 773)	Provided for classification of Army officers and authorized involuntary retirement of those designated "Class B."
Jun 30, 1922 (42 Stat. 722)	Authorized involuntary retirement of Army officers chosen for elimination from active list by board of officers.

Date and
Citation

Table VII-1 (continued)
Action

Feb 28, 1925 (43 Stat. 1080)	Raised minimum length of active service required by Navy and Marine Corps enlisted personnel for eligibility for transfer to Fleet Reserve from 16 to 20 years.
Jun 22, 1926 (44 Stat. 761)	Changed integrated Navy officer promotion/involuntary retirement system from age-in-grade to service-in-grade program.
May 29, 1934 (48 Stat. 811)	Made Marine Corps officers subject to Navy rather than Army retirement laws; brought them under Navy's promotion/involuntary retirement system.
Jul 31, 1935 (49 Stat. 507)	Authorized voluntary retirement of Army officers after 15 years of active service.
Oct 6, 1945 (59 Stat. 539)	Authorized voluntary retirement of Army enlisted personnel after 20 years of active service.
Feb 21, 1946 (60 Stat. 26)	Authorized voluntary retirement of Navy and Marine Corps officers after 20 years of active service, including 10 years of commissioned service; lowered mandatory retirement age from 64 to 62 for such officers; temporarily authorized their involuntary retirement if chosen for elimination from active list by board of officers.
Jul 26, 1947 (61 Stat. 495)	Created Department of the Air Force; made Army retirement laws applicable to Air Force personnel.
Aug 7, 1947 (61 Stat. 795)	Established integrated promotion/involuntary retirement system for officers of all Services.
Jun 29, 1948 (62 Stat. 1081)	Established retirement system for career personnel of Reserve and National Guard; authorized voluntary retirement of Army and Air Force officers after 20 years of active service, including 10 years of commissioned service; repealed 15-year voluntary retirement authority.
May 29, 1954 (68 Stat. 157)	Established specific retirement system for warrant officers of all Services.

(continued on next page)

Date and
Citation

Table VII-1 (continued)
Action

May 20, 1958 (72 Stat. 122)	Suspended "recomputation" method that primarily had been used to make post-retirement adjustments to retired pay since origin of Service retirement system.
Oct 2, 1963 (77 Stat. 210)	Replaced recomputation method of retired pay adjustment procedure based on increases in cost-of-living.
Oct 7, 1975 (Pub. L. No. 94-106, 89 Stat. 538)	Provided that the monthly retired/retainer pay of those who become entitled to that pay on or after 1 Jan 1971 may not be less than it would have been had the member become entitled to such pay of an earlier date in that member's career (Tower Amendment).
Oct 1, 1976 (Pub. L. No. 94-440, 94 Stat. 1462)	Eliminated the one percent add-on and established a semi-annual adjustment mechanism effective Mar 1st, and Sep 1st of each year. Percentage adjustment determined on CPI percentage increase from June to December and December to June, respectively (Chiles Amendment).
Sep 8, 1980 (Pub. L. No. 96-342 94 Stat 1098)	Deleted the semi-annual mechanism and directed that retired pay be adjusted at the same time and by the same percentage as Civil Service pensions, contingent on annual mechanism being established for retired Civil Service.
Sep 8, 1980 (94 Stat. 1100)	Replaced use of terminal basic pay with monthly retired or retainer pay base (average of highest three years of basic pay) for determining retired or retainer pay entitlements.
Aug 13, 1981 (Pub. L. No. 97-35 95 Stat. 754)	Established an annual adjustment mechanism for retired Civil Servants and activated a similar feature for retired servicemembers, effective on Mar 1st of each year, as determined by the percentage increase in the CPI from December to December of each year.
Sep 8, 1982 (Pub. L. No. 97-253 96 Stat. 790)	Placed a three-year limitation CPI adjustments during FY83-FY85 and slipped the effective date one month during each year (Apr, May, Jun), respectively. Members age 62 or more or disabled, receive full CPI percentage adjustments. Members under age 62 receive one-half "assumed CPI" (3.3, 3.6, 3.3 for FY83, FY84, FY85, respectively) plus the difference between the "assumed CPI" and the actual CPI percentage increase.

(continued on next page)

Date and
Citation

Table VII-1 (continued)
Action

Sep 24 1983
(Pub. L.
No. 98-94
97 Stat. 640)

Repealed the "one-year look-back" save pay feature for the calculation of initial amounts of retired/retainer pay, but: (1) created a 3-year extension for those eligible to retire on 24 September 1983 to use the "look-back" feature, and (2) ensured that retired/retainer pay may not be less than what it would have been during the three-year period for members eligible to retire on 24 September 1983. Provided that gross retired/retainer pay be rounded to the next lower dollar amount. Provided that years-of-service creditation for calculation purposes be based on 1/12 of a year for each full month served. This terminated the six-month rounding rule for computing retired/retainer pay.

Table VII-2
Summary of Significant Statutes Relating
to Disability Retirement and Retired Pay

Date and
Citation

Action

Feb 28, 1855
(10 Stat. 616)

Authorized involuntary removal of Navy officers from active list for disability and other reasons.

Aug 3, 1861
(12 Stat. 287)

Established disability retirement system for regular officers of all Services.

Mar 2, 1867
(14 Stat. 516)

Established disability retirement system for Navy and Marine Corps enlisted personnel with 20 or more years of service.

Jul 15, 1870
(16 Stat. 315)

Fixed disability retired pay for Army and Marine Corps officers as 75 percent of active duty pay, a formula that continued until 1949.

Mar 3, 1873
(17 Stat. 547)

Made 75 percent disability retired pay formula applicable to Navy officers.

(continued on next page)

Date and
Citation

Table VII-1 (continued)
Action

Jun 4, 1920
(Pub. L.
No. 66-243,
41 Stat. 834)

Temporarily made officers of Naval Reserve eligible for retirement on same basis as regular officers.

May 24, 1928
(Pub. L.
No. 70-506,
45 Stat. 735)

Created "emergency officers' retired list;" made non-regular officers of all Services disabled during World War I eligible for "retirement" pay from VA. "Retirement" pay equivalent of "retired" pay of corresponding regular officers.

Apr 3, 1939
(Pub. L. No.
76-18,
53 Stat. 555)

Made non-regular Army officers eligible for same disability retirement benefits as regulars. Under Executive Order 8099, such non-regulars handled same as "emergency" officers.

Aug 27, 1940
(Pub. L. No.
76-775,
54 Stat. 864)

Made non-regular Navy and Marine Corps officers eligible for same disability retirement benefits as regulars. Such non-regulars handled same as regular officers.

Jan 30, 1941
(Pub. L.
No. 77-140,
55 Stat. 394)

Established disability retirement system for Army enlisted personnel with 20 or more years of service.

Oct 12, 1949
(Pub. L.
No. 81-351,
63 Stat. 802)

Revised disability retirement system; applicable equally to officer and enlisted personnel of both Regular and Reserve Components; disabilities rated by degree and resultant ratings factor in retired pay entitlement and taxability; provided for temporary as well as permanent disabilities.

B. STUDIES. Nine major studies over the past 35 years have recommended changes to the Uniformed Services retirement system. The major retirement alternatives resulting from these studies were reanalyzed as part of the Fifth QRM review and are discussed in Section X.C. Table VII-3 is an overview of the major recommendations of these studies. A brief description of each study is given in subsequent paragraphs. Appendix B more completely outlines changes proposed by each of these studies. The First, Third and Fifth (current) QRMCs are the only QRMCs to have undertaken an analysis of the retirement system. The Second QRMC concentrated on certain Special and Incentive pays. The Fourth QRMC was never formally established; the statutory requirement for such a review was fulfilled by the President's Commission on Military Compensation.

1. Hook Commission (1948). This was the first comprehensive study of Uniformed Service compensation since 1908. It formed the basis of the Career Compensation Act of 1949, which set the structure of Service compensation system (basic compensation elements plus selected Special and Incentive pays) which exists to this day. The levels of compensation were set through comparisons with levels of responsibility in private industry.

2. The Gorham Report/Randall Panel (1962). The Gorham Report was a comprehensive study of the Service compensation system; however, no final report was issued and its findings were reviewed and, for the most part, approved by the Randall Panel. It led to the second largest Service pay raise in modern times (the largest was for FY82). A major recommendation of this study enacted into law was to base adjustments in Service retired pay on the CPI rather than on changes in basic pay of active duty personnel.

3. First QRMC (Hubbell, 1967). This was the first of the Quadrennial Reviews of Military Compensation required by law. The major recommendation of the First QRMC was a salary system for Service personnel. However, no legislation resulted from this study because of the assumption of a continuing draft and because of the costs of converting to a salary system.

4. Interagency Committee (IAC) on Uniformed Services Retirement and Survivor Benefits (1971). This was a comprehensive review of the Uniformed Services retirement system. The report recommended far reaching reform of the non-disability retirement system designed to reduce its inequities, improve its efficiency and effectiveness as a management tool, and decrease its cost.

5. DoD Retirement Study Group (1972). This group was formed to review the Interagency Committee report. The proposed Retirement Modernization Act (RMA) grew out of the work of this study group. Although a legislative proposal was submitted to the Congress in 1974 and again in 1975, no action was taken.

6. Third QRM (1975-1976). This was the first comprehensive review of the entire Service compensation system since the Hook Commission in 1948. A final report was never issued. The QRM Staff Research Papers covering the entire spectrum of Service compensation were published in 10 volumes. A significant product of the Third QRM was a comprehensive legislative history of the elements of Service compensation. The Third QRM concluded that the Uniformed Services should be paid through a modernized pay and allowances system, that comparability with Civil Service be the standard for establishing pay levels, that pay be set and adjusted on a total compensation basis, and that the retirement system should be the DoD-sponsored Retirement Modernization Act.

7. Defense Manpower Commission (1974-1976). This Congressionally created Commission was mandated to study a whole range of Defense issues, among them compensation. The Commission recommended several major changes to the Uniformed Services compensation system, including conversion to a salary system and a significantly revised retirement system. No compensation changes resulted from this effort.

8. President's Commission on Military Compensation (PCMC, 1977-1978, Zwick Commission). The "Zwick Commission" was established by the then new Administration to review all of the recently completed studies which affected Service compensation (QRMs, IAC, DMC and GAO studies). The PCMC recommended against a salary system, no formal comparability standard for setting pay levels, a form of pay reallocation from the pay line (annual pay issues resulting from Civil Service linkage) into Special and Incentive pays to solve manning problems, and a new, non-contributory three-part, mandatory retirement plan. They also recommended an early form of the current variable housing allowance (VHA) and a longevity pay based on time-in-grade vice time-in-service. DoD refined the PCMC retirement proposal and submitted to Congress the Uniformed Services Retirement Modernization Act (USRBA) in 1979. No action was taken by Congress.

9. President's Private Sector Survey on Cost Control (1983). The purpose of this group, chaired by Mr. J. Peter Grace (Grace Commission), was to identify opportunities within the federal sector for increased efficiency and reduced costs achievable by executive action or legislation. Federal retirement programs, to specifically include the Uniformed Services retirement system, were identified as an area for substantial cost savings. Two of the four Defense related Task Forces identified specific alternatives which are examined in Section X.C. of this report. Further, a Final Summary report is scheduled to be forwarded to the President on this subject in early 1984 which may include yet another alternative. Alternatives were formulated solely on the basis of cost savings and not on Uniformed Services manpower force requirements.

Table VII-3
Comparison of Past Studies on Service Retirement

<u>STUDY</u>	<u>BENEFIT VALUE</u>	<u>CONTRIBUTORY</u>	<u>VESTING</u>	<u>PAY BASE</u>	<u>SEVERANCE PAY</u>	<u>SOCIAL SECURITY OFFSET</u>	<u>GRAND- FATHER</u>	<u>INDEX</u>
1ST QRCM 1967	- REDUCED	YES	YES	HIGH-1	YES	YES	YES	CPI
IAC 1971	- REDUCED	NO	YES	HIGH-3	YES	YES	YES	CPI
DOD RETIRED STUDY GROUP 1972 (RMA)	- REDUCED	NO	YES	HIGH-1	YES	YES	YES	CPI
3RD QRCM 1976	- REDUCED	NO	YES	HIGH-1	YES	YES	YES	CPI
DMC 1976	- REDUCED	NO	YES	HIGH-3	YES	NO	YES	CPI
PCMC 1978	- REDUCED	NO	YES	HIGH-3	YES	YES	YES	CPI
USRBA 1979	- REDUCED	NO	YES	HIGH-2	YES	YES	YES	CPI
PPSSCC-OSD24A 1983	- REDUCED	NO	YES	HIGH-3	YES	YES	NO	UNDECIDED
-OSD24B	- REDUCED	NO	NO	HIGH-3	YES	NO	NO	UNDECIDED
-USAF	REDUCED	NO	NO	HIGH-3	YES	YES	NO	NO

C. METHOD OF FUNDING. The method of funding any retirement system can be characterized as either intergenerational (pay-as-you-go) or advance funding. The intergenerational funding approach charges a future generation of employees for the retirement benefits for current employees. The advance funding approach charges the cost of future retirement benefits to employees during their working lives. The Federal Government requires private-sector employers to use the advance funding approach for a very good reason -- a given organization may go out of business. When that happens, the employer should have developed a pension fund sufficient to pay off benefits earned to the date of termination. The Government also requires corporations to contribute annually to an insurance fund to cover cases of bankruptcy and default.

The total obligations for Federal benefit payments do not depend on whether program benefits are paid through a trust fund. They depend, instead, on the eligibility and benefit rules set up in the program's authorizing legislation. For instance, the entitlement to Service retirement benefits is no more or less binding than the entitlement to Civil Service retirement benefits, although the Service retirement system currently has no trust fund, while the Civil Service retirement system has a relatively large and growing trust fund. The legal requirement to pay beneficiaries a specified amount at the specified time does not depend on the existence or nonexistence of a trust fund. Further, the entitlement to benefits in both programs is established by legislation and can be changed for each by subsequent legislation. The misunderstanding of this situation is compounded by confusion concerning the way we now pay for Uniformed Service or Civil Service retirement. There is a general, but mistaken perception, that Government trust funds are analogous to trust funds used to finance pensions in the private sector. For private pension plans, accrued rights to benefits earned from years of work and earnings are legally enforceable rights and the Employee Retirement Income Security Act (ERISA) has established a variety of requirements governing the accumulation and investment of reserves. Private plans are required to have sufficient funds set aside, so that at the time of retirement the fund will be large enough to pay the benefits accrued. This avoids the payment of benefits out of current operating revenues as they are within the Federal Government and will continue to be in the future.

The de facto practice for funding Federal Government retirement systems is the intergenerational approach. The Social Security and Medicare systems have been funded on this basis. The Railroad Retirement System, once partially advance funded, has evolved to an intergenerational system. The Civil Service retirement system is partially advance funded on the books of the Government but, because the fund is internal to the budget, in the form of an IOU to the Government from the Government, the funding system is, in the final analysis, an intergenerational system. An April 1983 report by the Congressional Research Service for the Senate Committee on the budget entitled "Financing Work-Related Entitlement Programs" provides outstanding additional insight into the financing of Federal retirement systems.

The current Uniformed Services retirement system is a pay-as-you-go system and the FY83 cost expressed as a percentage of payroll (basic pay: \$30B) was about 53% or 16 billion dollars. Beginning in FY85, the Department of Defense is required by the DoD FY84 Authorization Act (Pub. L. No. 98-94) to fund Service retirement costs using the advance funding concept and an accrual accounting technique. A graphic portrayal of the difference between the current and future funding methods is displayed in Figure VII-1 and VII-2. (It should be noted that this law does not require that the Coast Guard, the Public Health Service, or the National Oceanic and Atmospheric Administration retirement programs use this new funding concept). Accrual accounting is a method of recording costs and setting aside funds in current budgets to pay the retirement and survivor benefits that eventually will be received by personnel who are currently in the Service or who will enter service in the future. It assures that future retired pay costs consider today's force structure and compensation decisions. A further effect is to avoid undue emphasis on immediate benefit cuts that offer short-term savings. Figure VII-3 illustrates the actual total DoD retirement outlays for the period FY55 through FY83. Also shown is the annual basic pay and an estimate of what the DoD accrual payment would have been if the system becoming effective in FY85 had been operative. Note that the level of the accrual payment and the actual retirement outlay crossed over in FY78 which is indicative of a maturing retirement system. Figure VII-4 displays the same data in constant FY82 dollars.

Accrual accounting, as enacted for the Service retirement system within the DoD, requires the Treasury to establish an interest-bearing trust fund and amortize the system's pre-existing unfunded liability (\$527 billion at the end of FY82), following the example set by private-sector pension plans. However, it is emphasized that the DoD accrual payment is an issue separate from the liquidation of the unfunded liability which is accomplished by a separate payment into the trust fund from within the Treasury. It should also be noted that the unfunded liability in private-sector pension plans differs in its importance from a similar liability in a public-sector plan. Fully funded civilian pension plans with funds held in trust offer private-sector employees a measure of protection against benefit losses from adverse economic circumstances or company mismanagement. While such safeguards may be necessary in the private sector, they are not essential in retirement systems that are backed by the resources of the Federal Government. Another point sometimes raised in association with the unfunded liability is that the failure to liquidate it through amortization would prevent the system from being actuarially sound. While amortization is a requirement for most private-sector pension plans, it is not essential to accrual accounting for Federal retirement systems. Since total outlays for retirement benefits would not be affected under an accrual system, all that would be necessary is that the accrual charge in any given year cover actual retirement outlays. If it failed to do so, the shortfall for that year could be made up by a supplemental appropriation for the general fund of the Treasury, which would be tabulated under the income security function. It is, however, desirable to amortize the unfunded



CURRENT SYSTEM

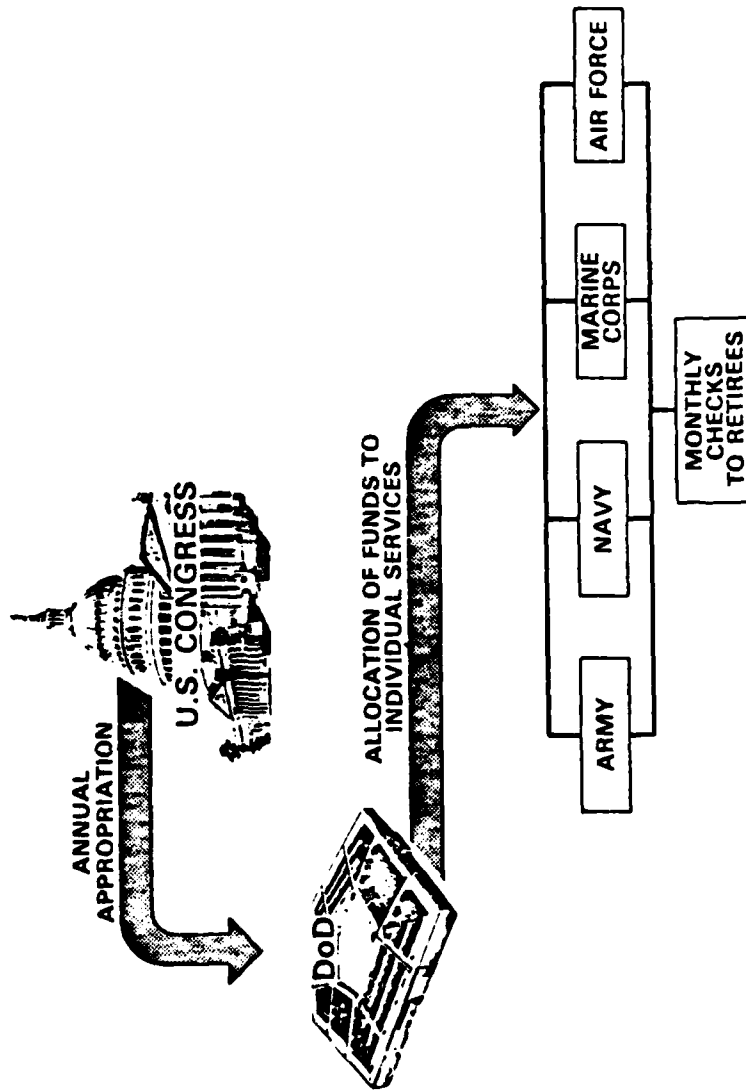


Figure VII-2



ACCRUAL SYSTEM

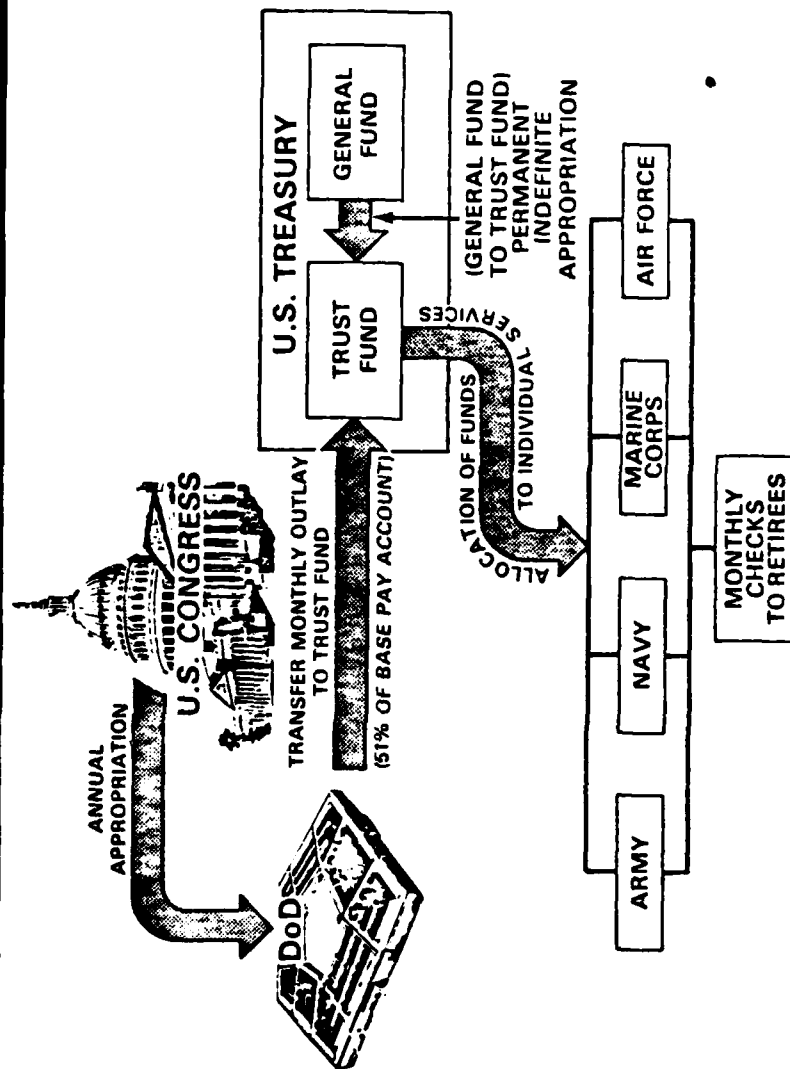


Figure VII-3

HISTORICAL DOD RETIREMENT OUTLAYS VS
ESTIMATED ACCRUAL PAYMENT
(ACTUAL DOLLARS)

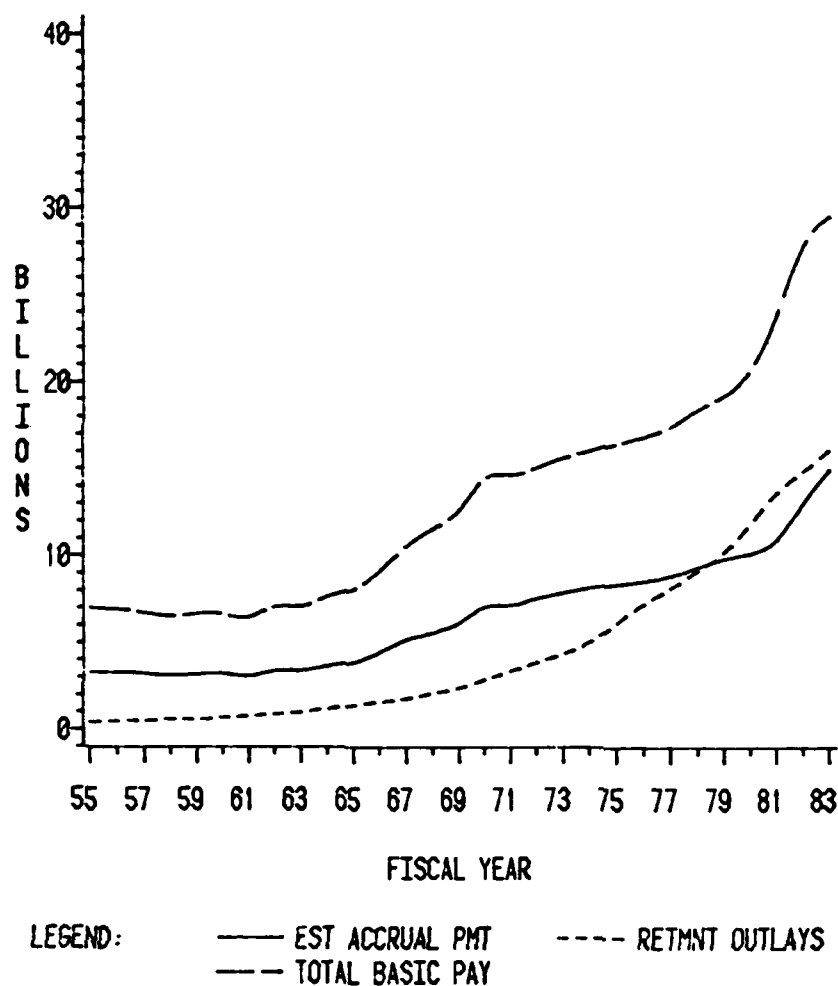
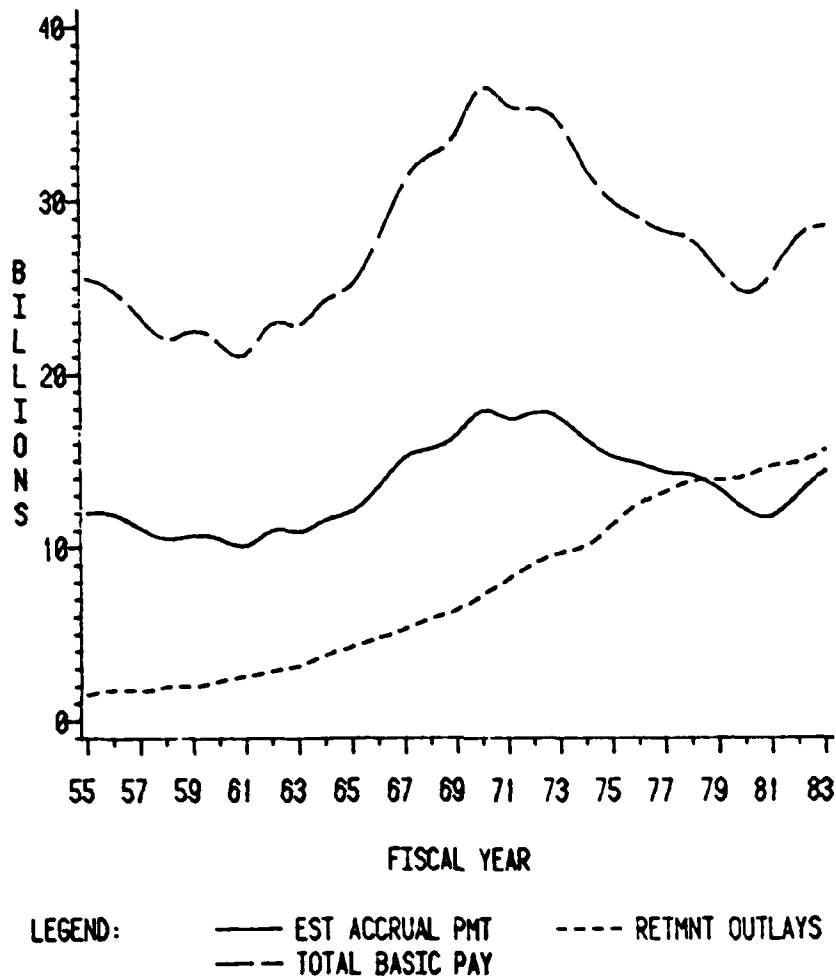


Figure VII-4

HISTORICAL DOD RETIREMENT OUTLAYS VS
ESTIMATED ACCRUAL PAYMENT
(CONSTANT DOLLARS)



liability to correctly record the cost of the program and to avoid unnecessary confusion.

Note, however, that the Service retirement system, along with the other forty Federal retirement systems, will still be a de facto pay-as-you-go system because the Federal trust of the accrual fund is simply an IOU. Since it remains a pay-as-you-go system, any discussion such as that in the 1983 President's Private Sector Survey on Cost Control about current unfunded liabilities, when comparing this system to the private sector, is academic. Such comparisons should correctly focus on comparative normal cost valuations which are concerned with present value of future benefits and present value of future "payroll" (however defined).

The Unified Budget deficit will not be impacted by the accrual funding system of DoD Service retirement costs. The added cost of accrual accounting in any fiscal year will be a general revenue expenditure but, at the same time, it will be retirement fund income. The two transactions cancel each other out with no effect on the deficit. To complete the circle, the Treasury will increase the amount of bonds to meet this extra cost and the Federal accrual fund will purchase bonds of equivalent value. The total privately-held debt will not change. However, the Federal total debt could grow and could require an increase to the statutory borrowing authority.

The use of an advance funding calculation (aggregate entry-age normal cost method) and an accrual accounting funding system for the DoD Service retirement costs has some advantages. First, trust funds (when properly maintained) insure sufficient funds for making timely benefit payments without the need for annual appropriations. Any actions which change the normal cost percentage will appear immediately in the DoD budget, i.e., in its required annual payment to the Federal trust fund and thus, reflect the impact of retirement on manpower decisions. Conversely, any actions which change the current unfunded liability do not appear in the DoD budget. The latter will simply enter into the annual recalculation of the unfunded liability and the appropriate adjustments to the Treasury amortization payment schedule. This means that any action which affects new Service entrants is reflected in the DoD budget; any action which changes the benefit paid to current retirees or those already in the Service and who later retire, does not cause a change in DoD's budget. It does, however, affect the annual trust fund outlays which are actually drawn from general revenues and sales of securities each year.

To illustrate what has actually changed the entry-age normal cost percentages for the Service retirement system within DoD, an examination of its value for fiscal years 1980, 1981 and 1982 is helpful. Table VII-4 shows these values and the actions which caused a change. The actual value in FY79 of 49.3% is not completely relevant as the entire calculation model and Service experience rate structure were significantly revised by the DoD Actuary between FY79 and FY80. It is known, however, that incorporation of the "HI-3" for the retirement

annuity calculation affecting all members entering the Service after September 8, 1980, reduced the cost by 6.6 percentage points or about 13%.

Table VII-4
Changes in DoD Entry-Age Normal Cost Percentages of Pay

FY79 Percentage	49.3%
Changes:	
HI-3 basic pay for benefit	(6.6)
Actuarial revisions	3.5
Net change	(3.1)
FY80 Percentage	46.2%
Changes:	
Once-a-year cost-of-living increases	(.5)
Rounding of service	(.2)
Variable enlisted basic pay increase	.4
VA offset changes	1.1
Net change	.8
FY81 Percentage	47.0%
Changes:	
Actuarial assumptions (excluding mortality improvements)	(0.6)
Mortality improvement	4.3
Net change	3.7
FY82 Percentage	50.7%

There were four major changes in compensation that affected the FY81 calculation. The first was a change to once-a-year cost-of-living increases for retirees instead of twice-a-year. Secondly, in the calculation of service for retired pay purposes, part of a year that is less than six months is disregarded and part of a year that is six months or more is rounded down to the nearest whole month actually served. The previous procedure required six months or greater service to be rounded up to the next full year. The third change was a direct result of the variable basic pay increase given to enlisted personnel on October 1, 1981. This action increased the internal or promotion valuation salary rates of enlisted members. The fourth change concerned the Veterans Administration (VA) offset amounts which were lowered for retired pay and increased for survivor annuities. These changed due to their direct relationship with cost-of-living increases as well as a different technique for creating the ratios. The most important FY82 change was the allowance for mortality improvement to be consistent with Social Security assumptions. There were several other changes in actuarial assumptions that were the result of refinements and revisions in the Service experience data base.

The aggregate entry-age normal cost percentages for DoD and the three non-DoD Services are shown in Table VII-5.

Table VII-5
Aggregate Entry-Age Normal Cost Percentages

	FY80	FY81	FY82	FY83
Department of Defense	46.2	47.0	50.7	50.96
Coast Guard	---	45.1	40.9	---
Public Health Service*	56.8	57.8	55.5	---
National Oceanographic and Atmospheric Admin.*	65.0	63.9	65.6	---

* Totally composed of commissioned officers

D. COMPARISON TO FOREIGN MILITARY SYSTEMS. The first known definitive work comparing foreign military compensation systems with that of the United States was conducted by the Third Quadrennial Review of Military Compensation in 1976. A staff research paper compared the military compensation systems of the United States, United Kingdom, Canada, Federal Republic of Germany, Sweden, Japan, and Australia. This paper included a comparison of retirement systems and social security programs. A copy of this comparison, in summary form, is contained in Appendix C, Attachment 1.

Responding to a memorandum from the Director, Joint Staff, Joint Chiefs of Staff, the Mobilization Concepts Development Center of the National Defense University (NCU) conducted an analysis of Service retirement systems of six nations to contrast their Service retirement systems with those of the United States. This study was requested by the Fifth QRCM and was completed in June 1983. The six nations studied were Australia, Canada, the Federal Republic of Germany, Japan, Great Britain and the Netherlands. The objectives of this study were to provide a general discussion of Service retirement in the context of total military commitments and the countrys' needs, to determine the use and obligation of retirees as mobilization assets, and to compare retirement eligibility, value, and numbers of retirees in each of the nations being studied.

In the course of this study, a series of five broad conclusions emerged which focus on the unique aspects of the Service retirement system in each of the six nations. The five conclusions are:

1. The Uniformed Services retirement system of the United States is uniquely structured to provide manpower assets for national mobilization, unlike the comparison countries which do not maintain world-wide commitments.

2. Retired foreign military personnel, with the exception of the Federal Republic of Germany, are not mobilization assets.

3. The comparison countries are generally committed to a philosophy of democratic socialism in which military retirement is integrated into comprehensive state welfare programs, thus making comparisons of actual value extremely difficult.

4. Foreign military retirement systems are primarily designed to augment old-age pensions rather than to be multipurpose; i.e., recruitment and retention incentives, deferred compensation, and current pay for mobilization recall.

5. There are minimal differences between the logic used in establishing eligibility requirements in the United States and in the comparison countries; however, specific details and compensation amounts vary widely.

These conclusions should be kept in mind when reading the discussion below. A complete copy of the study is at Appendix C, Attachment 2.

During the spring of 1983, the General Accounting Office (GAO) was also conducting a separate study of foreign military retirement systems. In addition to the nations studied by the National Defense University, the GAO studied the military retirement systems of France, Israel, and the Soviet Union.

Because each retirement system analyzed includes a number of complex provisions, a single lifetime earnings estimate cannot precisely portray differences in the characteristics among them. These lifetime retirement earnings estimates can only be interpreted as rough indicators of the level of benefits available under the various retirement systems. The complexity of the different retirement systems -- for example, terminal pay versus an average salary over several years as the calculation base -- soon turn specific comparisons into an exercise of mental gymnastics. The following observations were made by the GAO in their study and during their testimony to the subcommittee on Military Personnel, HASC, in October 1983.

1. Years of Service and Age at which Non-Disability Retirement Benefits are Payable. The U.S. retirement system allows both officer and enlisted members to voluntarily retire with an immediate annuity after 20 years of service, regardless of age. Department of Defense (DoD) statistics show that of those on the non-disability retired rolls as of September 30, 1982, about 45 percent of enlisted members and 21 percent of officers, had retired at 20 years of service, usually at age 39 for enlisted members and 43 for officers. Most enlisted members (77 percent) had retired by the 23rd year of service and most officers (58 percent) had retired by the 25th year of service. The average age at retirement for U.S. enlisted members was 42 and for officers was 46.

Except for West Germany, the retirement systems of the other countries surveyed by GAO also contain provisions for early retirement; that is, retirement with an immediate annuity after completing 20 or 25 years of service. However, in some instances, chronological age was also a factor. For example, in order to draw an immediate annuity, French officers must serve at least 25 years and be 45 years of age, while officers and enlisted men of the Soviet Union must serve 25 years but be at least 46 years of age. In the West Germany system, to be eligible for retirement benefits, all career enlisted personnel must attain the minimum age of 52. The minimum age requirement for German officers begins at age 52 at the rank of Captain (O-3) and increases by grade in 2-year increments to age 60 for General Officers (O-7 and above).

Although most of the countries surveyed provide for early retirement, it is interesting to note that, with the exception of Australia, the early retirement provisions are not as attractive as the U.S. system and do not encourage many early retirements. For example, in

contrast to the U.S. average age for officer retirement of 46, the average retirement age of officers is 56 in France and 50 to 55 in the Soviet Union. In West Germany, where early retirement is not allowed, the average retirement age of officers is 57.

2. Cost-of-Living Adjustments. In 1963, the Congress adopted a policy of full inflation protection of U.S. Service retired pay with cost-of-living adjustments (COLAs) being made on the basis of changes in the Consumer Price Index (CPI). Prior to 1963, retired pay was generally adjusted or recomputed on the basis of active duty pay increases. The specific provisions for adjusting military retired pay have changed several times since 1963, but the policy of full inflation protection had, up to now, generally remained intact. At the present time, there is a temporary COLA limitation for retirees under age 62. The current limitation applies to fiscal years 1983 through 1985 adjustments.

The GAO survey of the seven countries' military retirement systems indicates that all -- except the Soviet Union -- provide for at least an annual COLA. The Soviet Union believes it has no inflation and thus no need for COLAs. COLAs in the various countries are generally based on the CPI for that country, except for West Germany, where the amount of both the active duty and retired pay increases are subject to union negotiations.

Two countries, Canada and Great Britain, have an age or age and years-of-service limitation on retired pay adjustments. Canadian military retired pay is adjusted annually on the basis of the CPI if the retiree has attained age 55 or if his combined age and years of service equal 85. In Great Britain, retired pay is not adjusted prior to age 55, but retired pay is adjusted at age 55 for the cumulative loss prior to that time and is adjusted annually thereafter on the basis of the CPI.

3. Contributory versus Noncontributory Retirement and Integration with Social Security. Three of the seven countries surveyed -- Australia, Canada, and France -- have contributory retirement plans, with contributions ranging from 5.5 to 7.5 percent of salary (not basic pay). In addition to the U.S., four countries -- Israel, Great Britain, West Germany, and the Soviet Union -- have a noncontributory plan.

Concerning the integration of military and social security retirement plans -- Australia, Canada, and France -- also have fully integrated the military retirement system with their national social security programs and in two of these countries -- Canada and France -- members also contribute to social security -- 1.8 percent of salary in Canada and about 2.5 percent of pay in France. (Australian military personnel receive free credits). In all three of these countries, military pensions are either partially or fully offset by the amount received under their national social security plans.

The U.S. Uniformed Services retirement system is noncontributory, and its retirement benefit payments are not integrated with social

security payments -- social security benefits are 100-percent additive to military retired pay. Survivor benefits are integrated with social security. Of the other four countries with noncontributory retirement systems, Israel and Great Britain provide social security benefits which are fully additive to retired pay. In the remaining two countries with noncontributory military retirement systems -- West Germany and the Soviet Union -- military retirees are not eligible for national social security benefits.

4. Vesting of Retirement Benefits. Individuals who may eventually benefit from a retirement plan are generally concerned with the date on which they obtain a legal, nonforfeitable right to either present or future enjoyment of retirement benefits. This is referred to as vesting. While it is commonly thought that U.S. Service retirement benefits are "vested" at 20 years of service, it should be pointed out that entitlement to retired pay after having completed 20 years of service is conditional -- retirees are subject to recall; they must comply with certain post-retirement employment restrictions, and they can lose retirement benefits for violating certain provisions of the Uniform Code of Military Justice.

In the seven countries surveyed, a variety of practices were found:

--The Australian system is somewhat similar to that of the U.S.; members become entitled to receive retired pay upon completion of 20 years of service, except for late-entry officers (mostly medical personnel) who become vested after 15 years of service.

--The French system vests officers after 25 years of service, but enlisted members after only 15 years of service.

--Soviet military personnel generally do not become entitled to retired pay until after they have completed 25 years of service, but, again, there are exceptions for members released due to reductions in force.

--Israeli military members become vested after completing 10 years of career military service plus 3 years of conscriptive duty--a total of 13 years' service.

--West German and Canadian career personnel become vested after 10 years of service.

--In the United Kingdom, servicemembers who have at least 5 years of service and have reached age 26 are eligible to receive a pension at age 60.

5. Disability and Survivor Benefit Provisions. Survivor benefit plans and disability retirement provisions are common to all the foreign military retirement plans surveyed. Most survivor benefit plans are noncontributory whereas the U.S. plan requires a contribution from

the retiree, and many are integrated with a national social security program, as is the U.S. Survivor Benefit Plan. Disability retirement benefits vary considerably, but generally they bear the same relationship to non-disability retirement as in the U.S. system, i.e., based on a percentage of disability and/or years of service.

6. Lump-Sum Payments. An attractive feature -- at least from the retiree's perspective -- of several of the foreign country retirement plans is the option, upon retirement, to receive a substantial portion of future benefits as a lump-sum payment. And, in the case of Israel and Great Britain, the lump-sum payments are tax free. Further annuities are usually reduced accordingly, but the lump-sum payment is often viewed as a means of capital or equity accumulation which may not otherwise be available to military members.

7. Reserve Retirement. Concerning the provision of retirement benefits for reservists, the United States is the only country to provide such benefits. In the U.S., reservists and National Guard members who complete 20 creditable years of service for retirement purposes may become eligible to receive retired pay at age 60. These retirements will cost an estimated \$1.2 billion in fiscal year 1984.

8. Comparison of the U.S Uniformed Services Retirement System with Those of other Countries. Comparing the U.S. Uniformed Services system with those of other countries can provide many useful insights. However, it is unrealistic to expect such an examination to provide a definitive answer as to how the U.S. system should be designed or structured, or what special provisions and benefit formulas might be appropriate. This is due to four factors:

(a) Within each country, there are a whole host of societal differences and differences in expectations which may effect how their retirement system is structured and the benefit levels are determined.

(b) Each country may see its military mission, and thus the kind of force it needs to accomplish that mission, somewhat differently. This would effect not only force size and structure but also policies concerning active duty age limitations and their retirement system.

(c) Within each country, retired pay or pensions may make up different parts of their total compensation package. Thus, comparisons of the retirement component alone may be misleading.

(d) The controlling objective of each country's retirement system, i.e., as an instrument to manage the types of personnel currently serving on active duty or as an instrument to insure adequate living standards for elderly veterans, may differ.

Both the NDU and the GAO studies of foreign military retirement systems emphasize that comparisons of common elements and specific features of different retirement systems can be instructive and help focus attention on features which may be applicable to the U.S. Service retirement system. However, until the retirement systems' separate relationships with current compensation systems and the purpose of the countrys' military are fully understood, direct comparisons are not of significant value. Rather, such comparisons are indicators of trends and concepts which could assist decisionmakers in establishing meaningful and realistic retirement system changes or modifications.

E. COMPARISON TO THE PRIVATE SECTOR. A valid comparison of the cost of any retirement benefit requires that calculations be done using the same funding method, at the same point in time, and the same assumptions (economic, demographic, etc.) for all plans. All Federal retirement plans use an aggregate entry-age normal cost method for the calculation of retirement benefit costs expressed as a percentage of the payroll costs. The ratio of the present value of future benefits to the present value of future salaries is the normal cost percentage of the payroll of the benefits.

To calculate an entry-age normal cost, the future experience of a group of new Service entrants (or employees) is predicted. Their continuation rates, disability rates, normal retirement rates, death rates, survivorship characteristics, and salaries are predicted using the appropriate historical data. Recognition of the demographic conditions as well as the choice of specific economic and interest rate assumptions is critical. A valid comparison must superimpose the set of the appropriate assumptions and conditions of any system being compared to each of the other systems. This measures the cost of each system in the context of the system chosen as the common ruler.

Many past attempts have been made to examine the cost comparability of the Uniformed Services retirement system and old-age pension plans in the private sector. There are a number of good references on the trends in private-sector old-age pension plans as well as descriptive material on both Federal retirement plans and private-sector systems. One of the most useful trend reports is the "Corporate Pension Plan Study - A Guide for the 1980's" published by the Bankers Trust Company every five years. Also useful are the data published by various compensation consultant firms and trade/professional associations. However, none of these data are treated in a completely rigorous way to permit a valid cost comparison of various plans in terms of a percent of payroll cost. The most recent attempt to do this is contained in the President's Private Sector Survey on Cost Control (PPSSCC, also known as the Grace Commission). It concluded that the Service plan is "over five times more costly than the better private sector plans." The OSD Task Force report stated that "the normal cost of good private sector plans is between 5 and 6 percent of payroll. The normal cost of the military plan is 35 percent of basic military compensation." Their comparison is incomplete and seriously in error, potentially causing decisionmakers to have a significantly distorted view of the relative benefit costs. This error was partially corrected in the detailed text but not in the PPSSCC conclusions. The result of these corrections (shown in Table VII-6) is to lower the Service payroll percentage to 41% and raise the private-sector's to 14%, but this is still incorrect. Additional adjustments beyond the PPSSCC calculation are necessary to correct both the Service and private-sector employer costs. The last part of Table VII-6 summarizes the required changes, based upon review and calculations by the Fifth QRM. The result is a Service percentage of 40% compared to 20% for the average private-sector plan, a ratio of two.

Table VII-6
Comparison of Service and Private-Sector
Retirement Plans based on PPSSCC Calculations

<u>Adjustment</u>	<u>Service</u>	<u>Private Sector</u>
<u>PPSSCC Calculations</u>		
Normal cost of retirement plan; individual employer percent of covered pay	51% of basic pay	6% of salary
Add 2% for private-sector deferred compensation	51%	8%
Multiply Service by .69 for covered pay	35% of BMC (salary)	8%
Add 6.2% employers' social security cost on all pay	41%	14%
<u>5th QPMC Additional Calculations</u>		
Adjust Service social security (only basic pay is covered). Free \$1,200 credit is included (-1%)	40%	14%
Use Hay private-sector normal cost of 8% vice PPSSCC 6% (+2%)	40%	16%
Increase of 8% private-sector normal cost by 21.6% for Service demographic equivalency assumptions (+2%) and by 19% for DoD economic assumptions comparison (+2%)	40%	20%

To measure the impact of using a range of economic assumptions (i.e., to show the cost from either the private-sector view or the Government's view), two different economic assumption sets were used. The DoD set of assumptions was 5% CPI, 5.5% pay growth, and 6% interest. For the private sector it is the same, except that the interest rate was changed to 7.5%. The 5% CPI and the 6% interest rate (which produces one percent real yield) is what the Government must use for its return on long-term government securities. On the other hand a 2.5% real yield (7.5% interest rate) is more appropriate for the private sector. These sets of economic assumptions, when applied, using the Service demographics, give a more representative range of values and ratios. Moreover, they are significantly less than five or six to one quoted by the PPSSCC. Table VII-7 shows the comparison for the two sets of economic assumptions for the Service, private sector and the Civil Service. It also shows the values when the employees' contributions to their retirement/pension plans are included.

Table VII-7
Comparison of Service and Private-Sector Retirement Plans
for Different Economic Assumptions
(Cost as % of Salary)*

<u>Economic Assumptions</u>	<u>Service</u>	<u>Civil Service</u>	<u>Private Sector</u>	<u>Service to Private Sector Ratio</u>
DoD	40% (44%)	30% (37%)	20% (29%)	2.0 (1.5)
Private Sector	27% (32%)	20% (27%)	17% (26%)	1.6 (1.2)

*Numbers in () are total cost as % of payroll and include the employee's contribution.

Another and equally useful way to compare the individual retirement benefit differences between the Uniformed Services and the private sector is to calculate the total present value of retirement lifestream earnings. To do this across the \$10,000-\$70,000 salary ranges, the individual annual value (1982 dollars) of the retirement earnings components must be known and treated separately for present value calculations. The private-sector data were obtained from the Hay Associates' 1982 non-cash Compensation Comparison Survey data using the Hay benefit value methodology to place the data on a consistent basis. The life annuity multipliers used were dependent upon the economic (CPI and interest) assumptions. The life annuity factors were for either the DoD or QRMC sets of economic assumptions.

These combined data were used to calculate the total present value of retirement lifestream earnings for both the Uniformed Services and the private sector. These data are contained in Cases One through Six in Appendix D. Cases were constructed as shown in Table VII-8.

Table VII-8
Construction of Retirement Lifestream Earnings Cases
Retire After Age*/YOS

Case**	Uniformed Service	Private Sector	CPI	Interest
1,3	39 or 43/20	62/20	5%	6%
2,4	49 or 53/30	65/30	5%	6%
5	39 or 43/20	62/20	5%	7.5%
6	49 or 53/30	65/30	5%	7.5%

* Lower age is enlisted; higher age is officer

** Cases 1, 2, 5, and 6 have indexed the private-sector pension payment by 2% per annum. Cases 3 and 4 do not index this private-sector pension payment.

The ratio of the two total present values was calculated over the full salary range. For the Uniformed Services, the enlisted value was used at \$10,000-\$20,000 for the age 62, 20 YOS (62/20) cases and \$10,000-\$30,000 for the 65/30 cases. The values at \$30,000 and \$40,000 in these respective cases are a blend of the enlisted and officer values. The 90th percentile private-sector values have been used in keeping with the principle that the Uniformed Services plan should be better than the best private-sector plans. The applicable portions of Table VII-9 are from \$20,000-\$60,000 for 62/20 and \$30,000-\$70,000 for 65/30. The majority of retirements occur in the \$25,000-\$32,000 salary (BMC at time of retirement) range. Using the applicable salary range (for each case), the retirement lifestream earnings for the Uniformed Services are about 30% higher than the 90th percentile private-sector level for 20 YOS and 15% for 30 YOS.

Table VII-9
Private-Sector to Uniformed Services Ratios
(90th Percentile)

	Case (Age 62/20 YOS)			Case (Age 65/30 YOS)		
Salary (BMC)	<u>1</u>	<u>3*</u>	<u>5**</u>	<u>2</u>	<u>4*</u>	<u>6**</u>
\$10,000	1.04	1.14	0.92	0.99	1.04	0.89
20,000	1.26	1.33	1.06	1.13	1.19	1.01
30,000	1.30	1.40	1.12	1.20	1.28	1.09
40,000	1.26	1.36	1.13	1.20	1.28	1.08
50,000	1.36	1.48	1.17	1.16	1.26	1.07
60,000	1.33	1.46	1.17	1.15	1.25	1.06
70,000	1.34	1.47	1.17	1.15	1.26	1.07

* 0 private-sector pension index.

** 7.5% vice 6% interest.

Recently, the House Committee on Armed Services (HASC) requested the General Accounting Office to determine how the Uniformed Services retirement system compared to several other Federal retirement programs. Included in the GAO examination were the current Civil Service retirement system (with emphasis on law enforcement officers, firefighters and air traffic controllers) as well as the Foreign Service retirement system. This examination, although useful, did not undertake a rigorous cost comparison using consistent assumptions. While there are both similarities and differences between the Uniformed Services retirement system and the other special Federal retirement plans and systems that the GAO examined, the Uniformed Services system was found by the GAO to offer more distinct advantages. Servicemembers can retire at earlier ages than under any of the other systems, the overall basis for the benefit calculation is better, and the system is non-contributory. Even though the provisions for protective-services personnel and air traffic controllers closely resemble the Uniformed Service provisions, the Uniformed Services retirement system was stated to be more advantageous. Details of these GAO observations are in the testimony of Dr. K. J. Coffey before the Subcommittee on Military Personnel, HASC, on 29 July 1983. Additional background can be found in the testimony of Col. Leon Hirsh before the Military Compensation Subcommittee, HASC, October 12, 1977 (HASC No. 95-85). Another recent study was conducted by Economic Engineering Research Inc. (EER) for the Air Force and examined the retirement earnings in non-Federal and Federal para-military organizations. They found that the mean retirement benefits for these organizations are generally higher for a given salary/basic military compensation level; however, no work was done to evaluate and compare either the lifetime retirement earnings or the comparative cost to the employer/employee as a percent of payroll.

From these revised data one can find that, although the Uniformed Services retirement system is more generous than the private sector, it certainly is not 5 to 6 times more generous in its total cost to either the employer (taxpayer) or the employee (servicemember). The same is true for the comparison of the total individual benefit. In fact, if as the PPSSCC recommended, the Uniformed Services retirement system should be better than the best private sector plans, it is not far off. Furthermore, in total, the Uniformed Services retirement system is also more advantageous than the Civil Service retirement program. However, that is not the real issue facing the U.S. Government. The real question remains, "Does the Uniformed Services retirement system effectively serve to help accomplish our national security objectives?" This issue is not only one of cost efficiency but more importantly, it should be determined whether it helps provide the necessary number and mix of quality, experienced personnel, active, Reserve and on-call; serves the needs of the individual servicemember in providing a stable basis for lifetime career planning; and treats the taxpayer fairly.

Appendix F contains the detailed supporting data for the various comparisons made in the preceeding paragraphs.

F. MOBILIZATION ASPECTS. World War II demonstrated most poignantly the need for realistic and practical plans addressing military manpower mobilization and its effective utilization. This need is as important today as it was during that conflict, yet these vital plans are still impeded by disagreements over the best means of identifying required skills and how to apportion available manpower for optimum use in time of mobilization. Retired servicemembers have always been a part of the mobilization assets and historically have reentered active duty in significant numbers in time of war or armed conflict. These individuals constitute a large talented pool, who, while not all members of either the active force or drilling Reserve Components, have extensive Service experience. The importance of this manpower asset has long been recognized. Therefore, one of the stated purposes of the Uniformed Services retirement system has been to support and maintain this group as a means of providing an immediate manpower mobilization base.

The data in the remaining paragraphs has been drawn in part from Appendix E which includes a study by the Mobilization Analysts Development Center (MCDC) of the National Defense University (NDU). The NDU was tasked by the Joint Chiefs of Staff to undertake this study in support of the Fifth QRM. Specifically, NDU was requested to articulate current plans, procedures and issues associated with the projected use of retirees under national conditions requiring a mobilization. This study was important for several reasons. First, retiree potential should be included in baseline figures for military balance, including both peacetime strengths and time-phased availability of wartime augmentations under partial, full and total mobilization. Second, retiree assets are considered to be a necessary ingredient in building and maintaining a more effective Total Force structure, but their use generates implementation policy issues which must be thoroughly addressed. Finally, retiree recall statutory authorities are not definitive, and require added justification for effective planning. There should be no difference between the Services concerning liability for recall to active duty; hence, there is a real need to achieve standardization of the authorities to order retirees to active duty.

An examination of the current and projected retiree population indicates that there are, and will continue to be in the future, between 750,000 and 775,000 active force non-disabled retirees under the age of 60, of which approximately 425,000 will have been retired less than 10 years. This assumes a constant active force size of about 2 million. Mobilization contingency plans include the recall of between 22 to 86 percent of the retired population, depending on the Service. Presently, over 100,000 retired members hold orders recalling them to active duty in the event of mobilization. Due to political decisions during the Vietnam era, the recall authority was not exercised. Limited recall authority was exercised in the Korean Conflict also for political reasons. However, the recall experience during World War II, the last period of large scale mobilization, found over an 80-percent recall of physically fit retired members. To deny this source of assets to the nation is contrary to the national defense effort.

At a minimum, these Service retirees are reasonably available to relieve active duty manpower now assigned to the Support Activities category of the Armed Forces, consisting of a little under 650,000 projected requirements. This would permit about one-third of the total active duty forces dedicated to those functions to be reassigned to combat-related elements or service (support) units where shortages will occur. This figure does not include Reserve Component manpower also assigned to Support Activities, nor does it include comprehensive consideration of the entire spectrum of CONUS-based positions that could be filled by retirees making more youthful servicemembers available for deployment. Given the present condition of the Individual Ready Reserve (IRR), and overall deterioration of the Standby Reserve inactive status strength, combined with lack of effective legislative authority to recall unobligated veterans, this pool of retirees is particularly valuable as a "mobilization asset" in the truest sense of the term. Skill deterioration in utilization of retirees for support functions should not be a major factor considering the vast experience and knowledge gained over a Service career and proven competency.

Until recently, factual data on the availability and utilization of retirees was rather sketchy and retiree strength projection methodology was not -- and still is not -- uniform throughout DoD. A new DoD Directive 1352.1, dated July 28, 1983, is directed toward improving the uniformity among the DoD Services in establishing mobilization categories for all retirees, tracking and screening procedures, and obtaining changes in personnel information which affect mobilization availability.

One recent problem has been the development of a consistent picture of the number of retirees in several different categories used to define the retiree pool mobilization base. Inconsistencies between the pay and personnel records, primarily training, are one source of the problem. Another is the development of a standard methodology for accounting. The data exists within the Defense Manpower Data Center and Service finance center records. The lack of frequent use and, therefore, understanding makes the task even more troublesome. Table VII-10 shows the appropriate data for all non-disabled active duty retirees. It does not include the some 70,000 inactive retired reservists (Code V3) who have not yet reached age 60. Class I is all DoD non-disabled retirees who are under age 60 and who have been retired for less than 5 years. Class II is from the same source but includes those who have been retired 5 years but not more than 10 years. All retired personnel, whether they draw retired pay or not, are included.

Table VII-10
Active Force non-Disabled Pay--Eligible Retirees Only
(Officer and Enlisted as of end FY82)

	<u>ARMY</u>	<u>NAVY</u>	<u>USMC</u>	<u>USAF</u>	<u>DoD TOTAL</u>
<u>CLASS I*</u>					
<u>PAY STATUS-1</u>	- 58,313	46,667	9,649	72,174	186,803
- 2 & 3	- 347	81	49	203	680
<u>TOTAL</u>	- <u>58,660</u>	<u>46,748</u>	<u>9,698</u>	<u>72,377</u>	<u>187,483</u>
<u>CLASS II</u>					
<u>PAY STATUS-1</u>	- 66,398	51,992	12,860	115,919	247,169
- 2 & 3	- 823	217	56	710	1,806
<u>TOTAL</u>	- <u>67,221</u>	<u>52,209</u>	<u>12,916</u>	<u>116,629</u>	<u>248,975</u>
<u>OVERALL TOTAL</u> <u>(CLASS I & II)</u>					
<u>PAY STATUS-1</u>	- 124,711	98,659	22,509	188,093	433,972
- 2 & 3	- 1,170	298	105	913	2,486
UNKNOWN	- 198	14,888	13	14	15,113
(AGE/RET YR)					
<u>GRAND TOTAL</u>	126,079	113,845	22,627	189,020	451,571
<u>TOTAL RETIREES</u> <u>(UNDER AGE 60)</u>	- 216,928	205,853	42,434	313,094	778,308
<u>ALL RETIREES</u> <u>(ALL AGES)</u>	- 313,053	274,193	51,211	399,578	1,038,035

*PAY STATUS 1 ARE RETIREES PAID BY DOD, PAY STATUS 2 & 3 ARE PAID BY VA.

An interesting aspect relating to the potential use of those retirees who are classified by DoD as non-disabled is that 260,961 of the 1,038,035 have either a full (42,254) or a partial (218,707) offset to their retirement annuity due to payments received from the Veterans Administration (VA) for disability. As can be seen in Table VII-10 the 2,486 retirees in Pay Status 2 and 3 are fully offset (part of the 42,254) and 112,116 of the 433,472 Class I and II retirees in Pay Status 1 are partially offset. This raises a question concerning the real potential for recall and use of these retirees, and is a subject requiring further review.

By statutory authority retirees from active duty (regular) are more readily available than retirees from other than active duty (reserve); Army and Air Force regular retirees are more readily available than Navy and Marine Corps; and retired regular officers are more readily available than retired reserve officers. Of all the retired categories, the mobilization vulnerability of retired Regular enlisted members to involuntary recall is the least understood. Between their 20th and 30th service anniversaries and upon transfer to the Army, Air Force, Fleet or Fleet Marine Corps Reserve, respectively, they essentially enjoy a "dual status" which requires further legal determination or change in legisla-

tion concerning appropriate recall authority. The ambiguity of current recall authorities militate for legislative review and revision. The ultimate proof of Service retirees as a "mobilization asset" is based upon their availability for call-up during peace, and vulnerability to involuntary recall in time of war or national emergency.

Almost as important as the capability to clearly identify mobilization assets available is the Services' need for the retirees to maintain a reasonable degree of professional proficiency at a desired standard, and a suitable physical/medical fitness. The respective Services must be able to fully incorporate these viable assets into on-going mobilization planning. Each Service is wrestling with the skill decay and physical deterioration portion of this equation -- the Army and Marine Corps more so than the others. This enigma could be partially solved by more definitive DoD guidance regarding the types of positions that could be filled in an emergency and closer personal coordination between the Services and retirees. Adoption of a valid statistical approach could provide the aggregate data necessary for appropriate determination of retiree suitability.

Finally, planning for the utilization of retirees in the Total Force structure is continuing at a varying pace among the Services. The Marine Corps is the most advanced Service. The Army is within one year of being where the Marine Corps stands now -- i.e., the refinement phase, requiring only some fine tuning of the program. The Navy is at least two to three years behind the Army, but they have the appropriate vehicle to catch up with ease if it is implemented. The Air Force, on the other hand, has the least sophisticated program and requires the most work. The NDU assessment of the Service plans and procedures for recall of retirees resulted in the following observations:

1. Marine Corps. The Marine Corps has the most advanced program for the recall and integration of retirees into OPLANS for a mobilization contingency. The computerized match of requirements (billets) with specified skilled assets is most noteworthy. Expedient alert notification is fully accomplished by mailgram -- although subject to communication network overload constraints at time of implementation.

2. Army. The Army program for recall and integration of retirees into a CONUS sustaining base under a mobilization contingency is maturing steadily. Retirees with "hip pocket" orders -- and, therefore, not subject to communication network overload in times of emergency -- have increased sufficiently in numbers; the program only requires further refinement to iteratively meet internal goals involving MOS mismatch. Recent initiatives involving the consideration of retirees during "partial" mobilization, assignment of retirees to flesh out USAR Training Divisions and use of overseas retirees in-theater add significant credibility to the Army program. This program now stands up well under close scrutiny.

3. Navy. The Navy program for recall and integration of retirees exists via the Navy Manpower Mobilization System, inasmuch as the requirements (billets) by officer and enlisted grades have been identified. However, matching specified assets with concomitant skills has not received sufficient emphasis and the established milestones for completion are quite optimistic. Unless a robust approach is taken to realistically expedite target dates, the program will become moribund and lack the necessary degree of credibility.

4. Air Force. The Air Force program for recall and integration of retirees is virtually non-existent because of philosophical reservations on their effective use, primarily because of availability and skill deterioration. Although the Air Force recognizes the potential for retiree utilization in a national emergency and, accordingly, maintains asset lists, planning for eventual use of retirees is being deferred until such crises must be ultimately faced.

VIII. CURRENT SYSTEM PERFORMANCE AND COST.

A. GENERAL. The question of whether the Uniformed Services retirement system is effectively supporting our national security objective can only begin to be answered by first understanding specifically what it is intended to accomplish and next by examining its past performance. The predominant criticism of this system over the past thirty years is that it has become too expensive. This criticism has focused on general aspects, such as an early retiree age with full benefit, full protection from inflation (indexing), its non-contributory nature, possible inequities, the absence of persons separating early (no vesting), and its apparent lack of coordination with Social Security. The basis of this problem has been known for some time but is generally ignored by the critics. It lies in the changes that have taken place since World War II in both the Service force management policies, the size of the Uniformed Services which the United States has found necessary to maintain, and the unexpected increase in the national inflation rates.

These problems can best be illustrated by the following extracts from "A Study of the Military Retired Pay System and Certain Related Subjects," conducted by the University of Michigan in 1961 for the United States Senate Committee on Armed Services:

Prior to World War II the military retirement system served four basic purposes: (1) to attract and to retain retain capable people; (2) to remove the superannuated and disabled; (3) to provide economic security for old age after long and faithful service; and (4) to provide compensation for hazardous service and irksome conditions of employment. The services consisted almost entirely of regular officers and enlisted men; reservists generally served only for short periods of time, usually during war periods. The retirement benefits provided a strong inducement to attract and retain personnel because the benefits were usually far superior to those that could be obtained in other lines of endeavor. A service career was also a lifetime career--few men, especially officers, served less than 30 years and some served considerably more. Few officers when entering the service considered the possibility of a second career upon retirement because of age as well as lack of skills which could be utilized in the civilian labor market. Retirement costs were low because of the small size of the defense establishment and because of the age of the people upon retirement.

The approach and outbreak of World War II highlighted defects in the services, some of which had become apparent earlier. One of the chief defects was that of over-age officers in the top ranks whose presence had blocked the promotions of younger, more vigorous officers.

This problem was created in large part because promotion was based upon seniority; it required long periods of time for men to rise to the senior positions. In addition, because of the seniority system, many of the top positions were filled by personnel without adequate leadership and technical skills. The problem of promotion flow was also complicated in the 1920's and 1930's because of the large number of World War I officers -- the "hump" group -- on the promotion list.

Congress enacted considerable legislation between World Wars I and II which dealt with these military personnel problems. Notable among these actions were those which began to establish more firmly the principle, begun in the Navy and Marine Corps before World War I, of elimination of an individual from the service if he were not promoted and the principle of voluntary retirement with less than 30 years of service. The principle of voluntary retirement with less than 30 years' service permitted officers who had not been promoted the opportunity to leave the service without losing accrued benefits.

The termination of World War II and the demobilization which followed again made it necessary for Congress to consider the personnel problem involved in maintaining an efficient defense establishment. In response to this need, Congress took several actions; these actions form the basis for many of the present problems of military retirement.

Chief among the actions taken by Congress was the Officer Personnel Act of 1947. This Act was designed to prevent the problem of the pre-World War II period -- older officers without adequate skills attaining the senior positions through seniority, thus blocking the promotion flow of younger officers. The Act established a system of permanent promotions based principally upon qualification rather than upon seniority and provided for the elimination of inferior officers before they advanced too far. Maintenance of the promotion flow was to be attained through the forced attrition of officers in the higher rank.

Provision was thus made for a promotion system based upon the "up-or-out" principle. If an officer is not promoted, he is removed from the service either by honorable discharge with severance pay if he has less than 20 years' service or by retirement if he has 20 years or more of service. The promotion flow is further maintained by mandatory retirement of those officers who fail to attain the flag or general officer rank upon 30 years of service, as well as some officers who do attain these ranks. The Act embraces, therefore, as a means of maintaining the vigor of the services, a "normal" career for Regular Officers of from 28 to 30 years with retirement of most officers concurring between the ages of 50 and 57.

....One method of encouraging continued service is the provision for voluntary retirement at 50% of base pay (2 1/2 times years of service) after 20 years of service, with permission of the secretary of the service. The 20-year concept, or early retirement, as it affects officers, exists for two reasons: to encourage the continued service of Reserve officers and to provide another means of maintaining the vigor of the services.

The principle of a 20-year career has also been applied to enlisted personnel. The Navy and the Marine Corps have had early retirement for enlisted personnel since 1916. Legislation enacted by Congress in 1946 permits Army or Air Force enlisted personnel to request retirement after 20 years of service. Defense Department regulations in effect require that such requests be granted. Although there is no mandatory retirement for enlisted personnel the services can effect retirement by refusing to enlist the individual at the expiration of his enlistment contract. This action forces the enlisted man to apply for retirement benefits if he has 20 years of service and if he wishes to receive further compensation.

....[Most] enlisted personnel are retired somewhat younger. For these people, there is only a limited military career; consequently, they must look forward to a second career.

The military retirement system now has not only its traditional functions noted above, but it also has additional functions. The voluntary and mandatory retirement provisions are utilized under the

present concept of manpower utilization to maintain the vigor of the services. Because few officers and enlisted men can look forward to a lifetime career, retirement benefits provide readjustment payment in transferring to a second career after completion of military service. Retirement benefits may also be important in helping the individual maintain the standard of living which he has attained if he is unable to develop a satisfactory second career because of age or lack of skills required in the labor market.

The personnel concept which has been adopted -- an "up-or-out" promotion system and limited careers by forced attrition of people after 20 to 30 years of service -- requires a constant flow of personnel through the services. The necessity since World War II to maintain a large defense establishment -- a condition which apparently will continue into the foreseeable future -- has increased the manpower requirements. The consequence of this manpower concept combined with the large number of personnel required to maintain the size of the defense establishment is that in the future there will be an ever increasing number of people receiving retirement benefits.

B. RETIREMENT PRINCIPLES AND POLICIES. Using the above 1961 perspective of the evolution of the current retirement system, it is important to examine the philosophy and foundation on which the system is built. The principles which support the Uniformed Services retirement system are compatible with and are a logical extension of the six basic principles of the total Service compensation system. These six principles were outlined in the Fifth QRC Executive Summary, Section II. The three underlying principles of the Uniformed Services retirement system and associated policies are as follows:

1. Structured to Meet Defense Requirements. The system should be structured to meet legitimate defense requirements in support of our national security objectives. Out of this principle flows an appropriate policy premise that the retirement system is interrelated and inextricably linked with both the force management system and the compensation system. As such, it must support and complement the management requirements of the Services in meeting the national security objectives. In this capacity, it must help support several vital needs:

a. Provide for a uniform flow through the personnel structure to maintain young, vigorous, and effective forces capable of operating both in times of peace and war;

b. Recognize the long-term voluntary acceptance of a highly restricted, disciplined and controlled career in a society where others enjoy greater individual freedoms (recognize the arduous nature of duty in the Uniformed Services);

c. Maintain a mobilization base of experienced personnel who can be rapidly recalled to active duty;

d. Provide for the financial security of career service members in their old age; and

e. Recognize that the personnel system is a closed-entry system and that mid- and senior-grade careerists who leave the system normally can only be replaced by new, entry level accessions.

2. Support Service Force Management Requirements. The retirement system should support and complement force management requirements of the Services. In this regard, the Service retirement system is similar to other retirement systems, only to the extent that each is structured to meet the objectives of an institutional or corporate entity. Overall requirements determine organizational objectives; objectives dictate personnel management requirements, which, in turn, determine the nature of a retirement system. Without commonality among organizational requirements, it does not logically follow that retirement systems must be similarly structured. Further, the retirement system must be structured to act as an incentive to each member to serve the maximum length career consistent with and permissible by Service requirements. The member should not be penalized if the requirements of the Services result in a mandatory retirement.

3. Integrated into the Compensation System. The system should be integrated into the Uniformed Services compensation system and be structured to meet an income replacement function as well as an income maintenance function acceptable to the nation. The necessary policies in support of this third principle involve the following:

a. The retirement system must be fair to both the service-member and the taxpayer. It must be adequate to attract, but primarily to retain, the number of quality, experienced personnel required to perform the Services' missions.

b. The system must be stable to permit the individual servicemember to satisfactorily plan for the future. However, recognizing that future changes may be necessary, these changes which are set through law by the Congress, should only apply to new Service entrants while at the same time honoring commitments to those already retired.

c. The purchasing power of all forms of Service retirement compensation should be protected against inflation.

d. The retirement system must provide for equitable treatment for all servicemembers who are entitled to the retirement benefit. This treatment must be consistent with their conditions of service.

With this general background and general guidelines, one can now attempt to draw some conclusions on how it has performed and how much it has cost. To do the latter, one must examine in some detail the retirement system experience and force profiles which have taken place over the past 30 years (all the data that is available and usable).

C. RETIREMENT COSTS. On the basis of the Michigan study extracts, it appears that among the reasons for the sizable increase in the cost of the Uniformed Services retirement system have been the "selective continuation" force management policies which have created a large voluntary retirement flow at, or shortly after, the twentieth year of active Federal service; and, secondly, the increased size of our force structures. Table VIII-1 gives a perspective to this cost growth.

Table VIII-1
Uniformed Services Retirement Costs

Fiscal Year	Budget Outlays (Billions)			Military Retirement as		Total # Retirees (000)	Cost Per Retiree (Con.82 \$)
	Federal	DoD	Mil. Ret.	% of Fed.	% of DoD		
1940	9.5	1.5	0.1	0.7	.5	50	-
1950	42.6		0.2	0.5	1.7	130	6,000
1960	92.2		0.7	0.8	1.7	250	9,000
1970	195.6***		2.8	1.5	3.7	760	8,200
1980			11.3	2.0*	8.5**	1,260	10,600
1982			14.9	2.0	8.1	1,300	11,400
1988****	1,142.0	377.0	20.1	1.8	5.3	1,420	10,800

*Peaked in FY79 at 2.1.

**Peaked in FY79 at 9.0.

***Restructured in FY69 to include certain entitlements (social security)

****Estimate based on President's FY84 budget.

To determine the actual reasons for this growth, an analysis of the costs from FY55 through FY82 was conducted. This analysis, contained in Appendix F, concludes that there has been a significant growth in the active force non-disability retirement budget outlays (\$12 billion) over the past 30 years. The four primary causes in the order of magnitude, are:

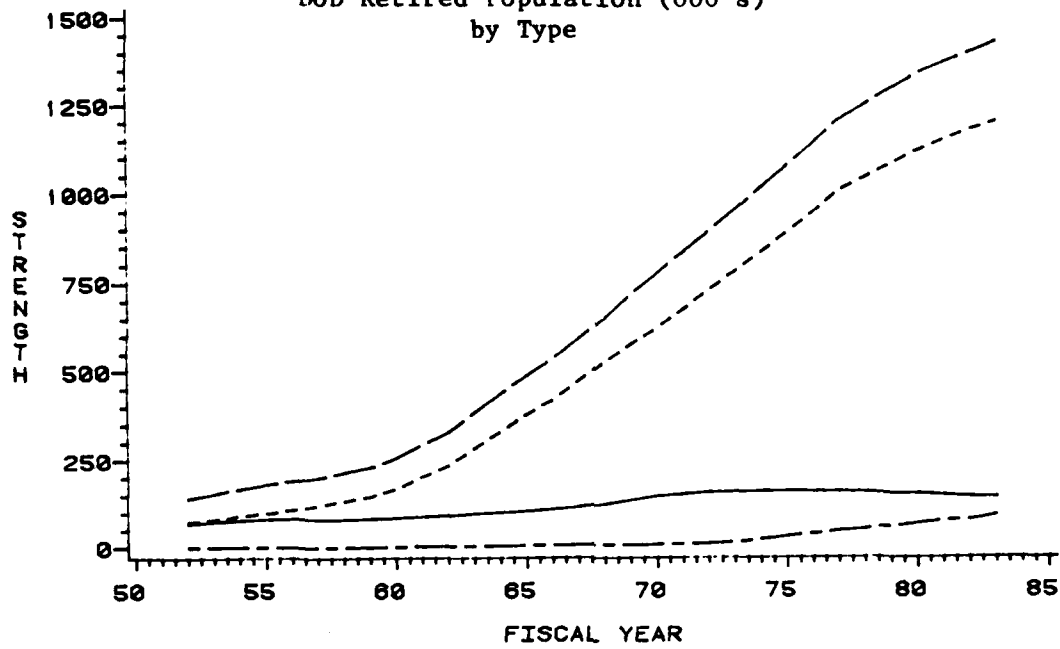
- Inflation, which averaged 5% per year, caused 55% of the increase (\$6.6 billion);
- Wage growth (basic pay increases), which averaged 1% growth per year, caused 21% of the increase (\$2.6 billion);
- A retired population increase of elevenfold caused 19% of the increase (\$2.1 billion); and
- Retired pay adjustments caused 5% of the increase (\$0.6 billion).

Interestingly, the cost growth was not caused by any change in the officer/enlisted retiree mix (a higher percentage are enlisted personnel today); paygrade differences at time of retirement (up slightly); life expectancy increases (will impact in the future); or the establishment of enlisted paygrades E-8 and E-9.

The National Guard and Reserve (Title III) retirement system cost history is much the same, but the population growth has been and will continue to be a larger percentage factor, because the National Guard and Reserve retirement system only started in 1948 and is, therefore, much less actuarially mature. Its population increased 17-fold over the same period (FY55 through FY82). The cost increased from about \$10 million to about \$1 billion. Disability retirement and survivor costs have risen from about \$190 million to \$1.7 billion, while the population grew from 81,000 disabled and about 1,000 survivor families to 142,000 disabled and about 77,000 survivor families (The survivor program was established in the 1950's).

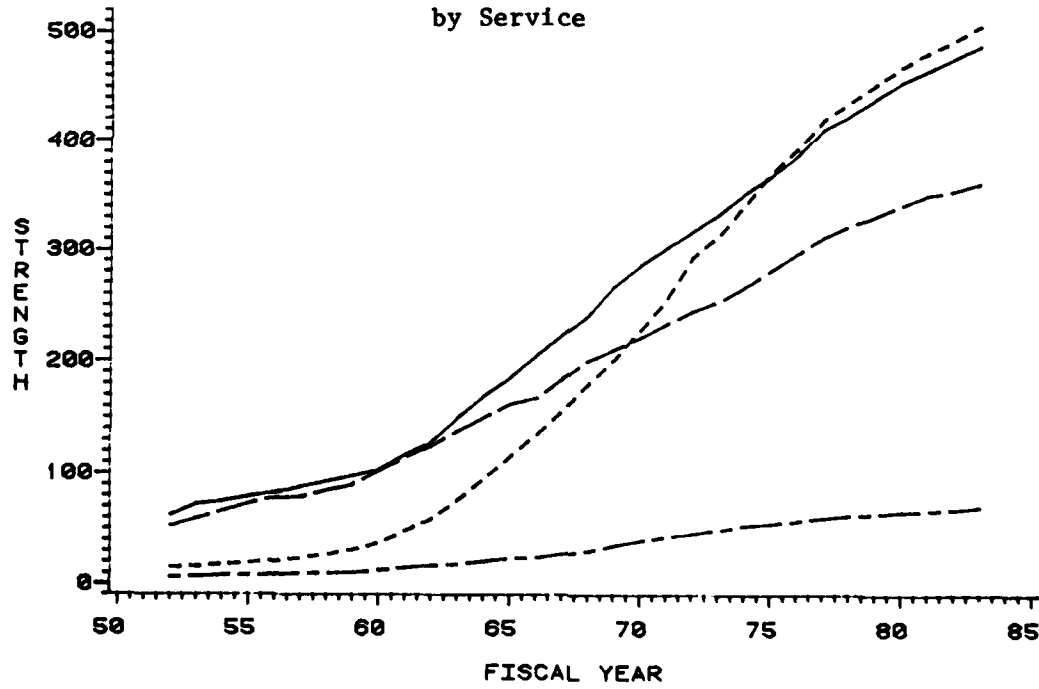
Figures VIII-1 through VIII-4 display the population and cost history for DoD overall and the four DoD Services. Tables VIII-2 and VIII-3 contain the specific numbers.

Figure VIII-1
DoD Retired Population (000's)
by Type



LEGEND: KIND ——— DISABILITY - - - - - NON DISABILITY
 - - - - - SURVIVOR ——— TOTAL

Figure VIII-2
DoD Retired Population (000's)
by Service



LEGEND: SERVICE ——— ARMY - - - - - AIR FORCE
 - - - - - MARINE ——— NAVY

Table VIII-2

Number of Service Retired Personnel and Survivors From DoD

FY	DoD Totals			Service Totals			
	NonDisab	Disabled	Surv.	Total	Army	Navy	USMC
1952	73	68	0	141	62	52	6
1953	80	74	0	154	72	59	7
1954	90	78	0.1	168	75	66	8
1955	98	81	0.5	180	79	73	8
1956	108	83	0.8	191	83	78	9
1957	120	79	1.1	200	88	79	10
1958	133	81	1.5	215	93	85	10
1959	146	83	1.9	230	98	90	11
1960	168	85	2	256	103	102	13
1961	202	88	3	293	117	114	15
1962	233	92	3	329	128	125	17
1963	283	96	4	382	150	138	18
1964	331	99	4	435	169	150	21
1965	377	103	5	484	185	162	23
1966	417	108	5	530	204	167	24
1967	469	115	6	590	223	184	27
1968	522	123	6	651	241	200	30
1969	573	134	7	714	267	210	35
1970	620	145	8	773	286	221	39
1971	671	151	9	831	302	233	43
1972	725	156	10	948	317	244	46
1973	777	158	13	1,012	333	253	49
1974	830	160	22	1,073	352	266	53
1975	884	160	29	1,132	367	281	55
1976	940	156	36	1,153	386	296	57
1977T	960	155	37	1,153	395	300	58
1977	1,001	155	44	1,199	410	311	60
1978	1,038	154	51	1,243	423	322	62
1979	1,076	152	58	1,286	439	331	64
1980	1,113	151	66	1,330	454	341	66
1981	1,143	146	74	1,363	465	350	67
1982	1,171	142	77	1,391	476	354	68
1983	1,193	140	89	1,423	487	361	70

Figure VIII-3
DOD RETIRED COST
(MILLIONS)

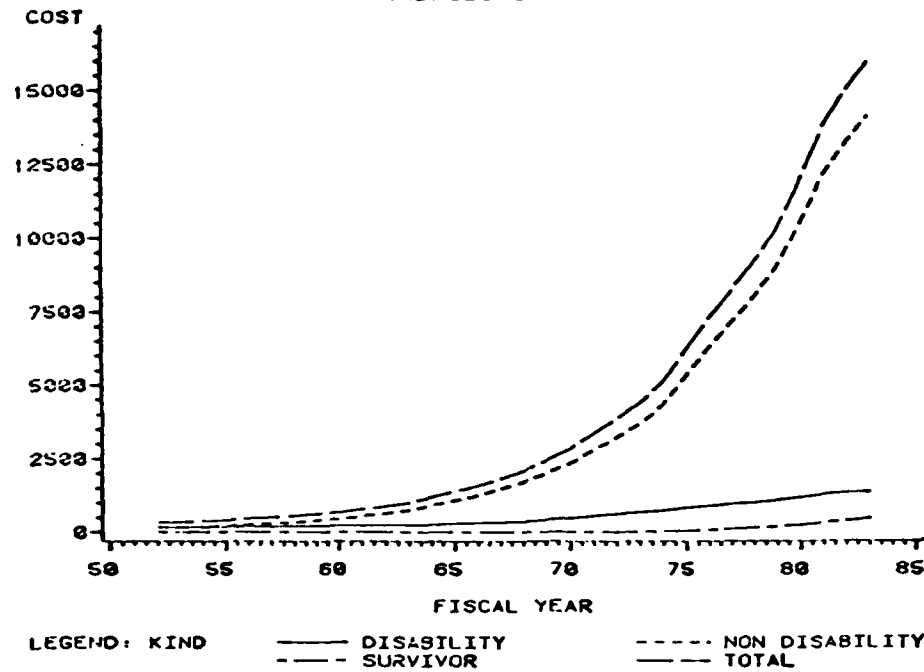
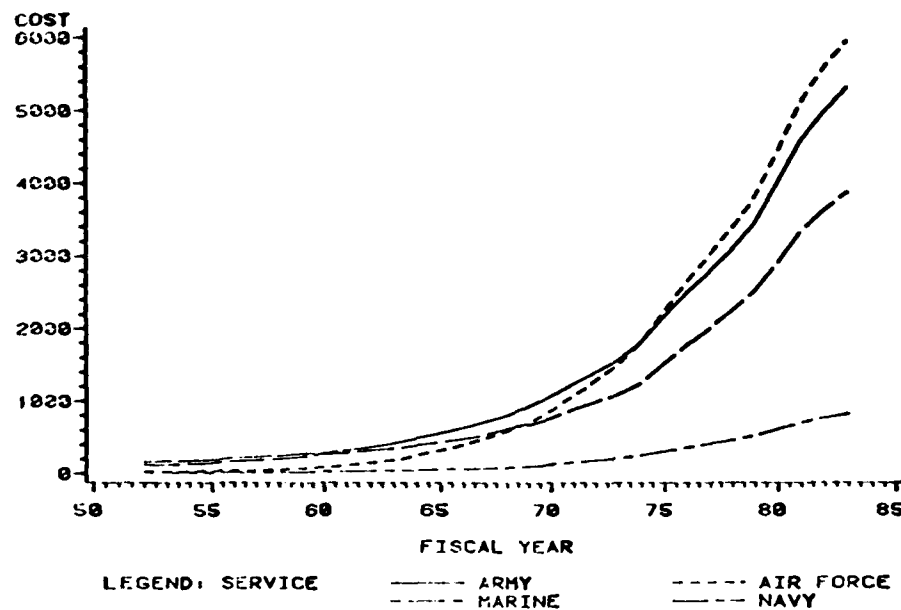


Figure VIII-4
DOD RETIRED COST
(MILLIONS)



Actual costs compared to projected costs expressed in both constant FY82 dollars and "then year" dollars) for the current retirement system have been based upon the FY82 DoD Actuary valuation of the Uniformed Service retirement system and are shown in Figures VIII-5 and VIII-6. Appendix G, Figures G-1 and G-2, provide more detail on the costs attributable to the current retirees, future retirees from those currently on active duty as of 1 October 1984, and retirees resulting from new, non-prior service (NPS) entrants on 1 October 1984 and later.

Figure VIII-5

TOTAL DOD SERVICE RETIREE (NON-DISABLED / DISABLED) COST
(ECONOMIC ASSUMPTIONS - 5% COLA, 5.5% WAGE, 8% INTEREST)

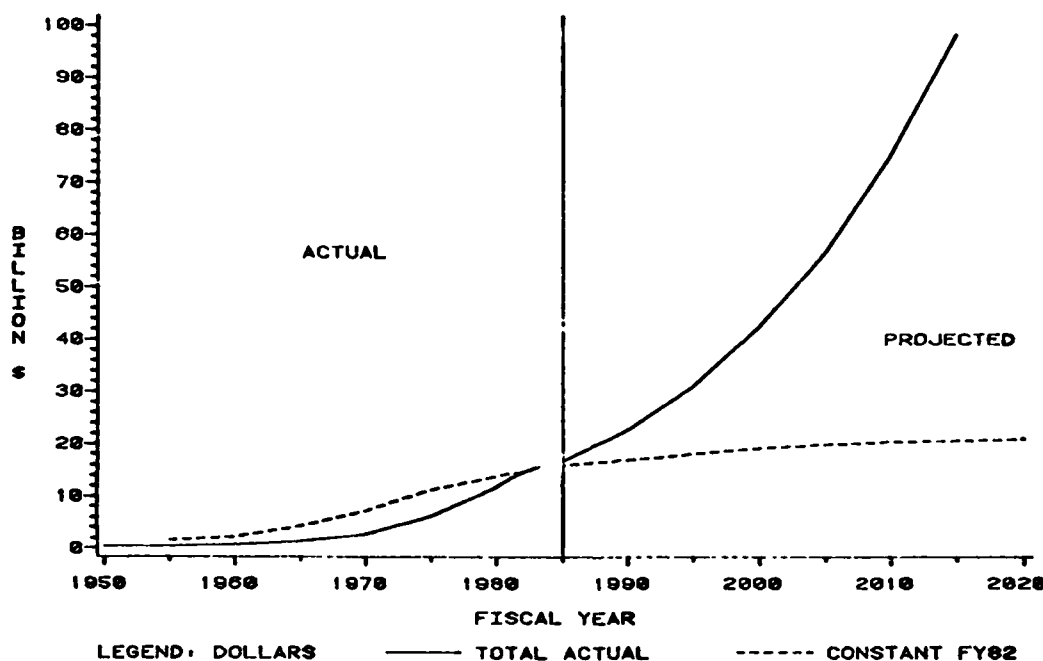
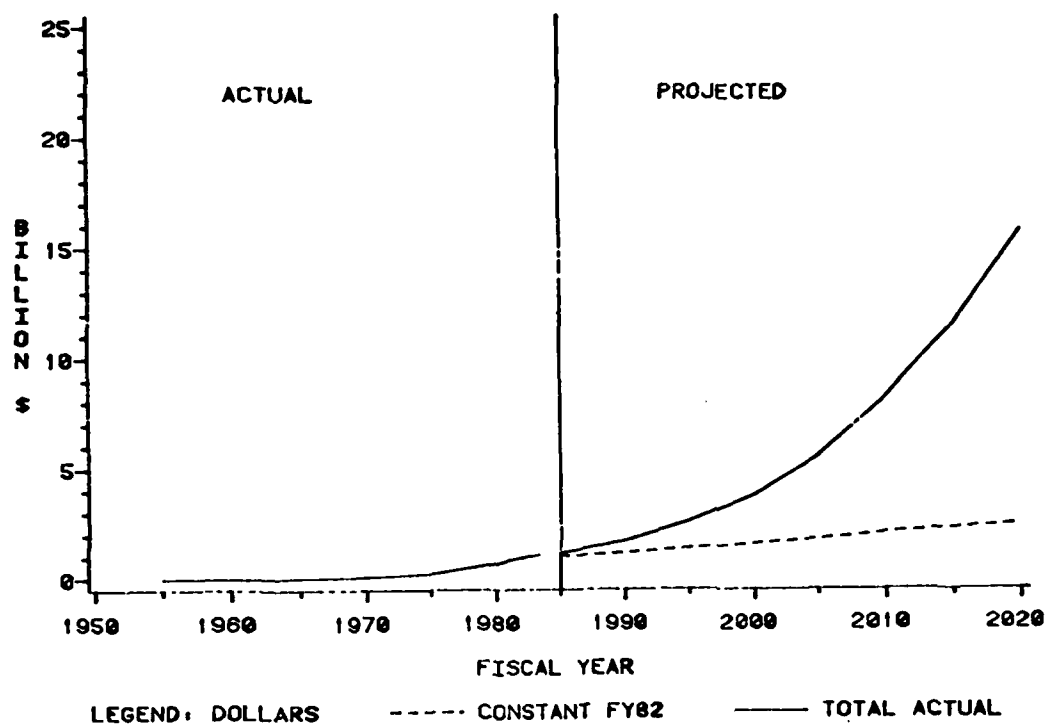


Figure VIII-6

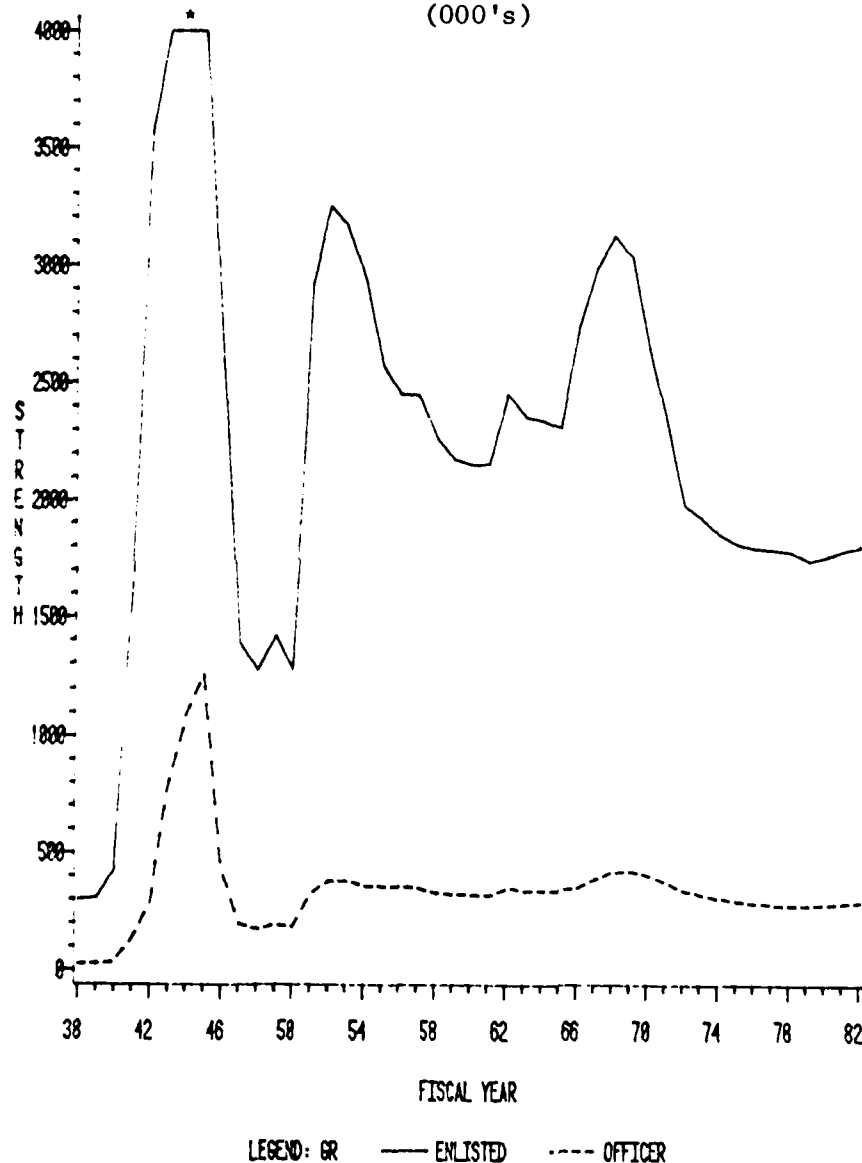
RESERVE (TITLE III) RETIREMENT COST

(ECONOMIC ASSUMPTIONS - 5% COLA, 5.5% WAGE, 6% INTEREST)



D. FORCE PROFILES. The second aspect of the cost growth relates to the increased force size. Figure VIII-7 shows the total DoD active duty strengths for enlisted personnel and officers since 1938 and clearly displays the large World War II buildup of both followed by a severe draw-down. In 1951, many of the separated World War II veterans returned to active duty in response to the Korean Conflict; however, the enlisted force experienced much more pronounced cycles for Korea, Berlin and Vietnam than did the officer force. Table VIII-4, the actual end-of-fiscal-year strengths, quantifies these buildup cycles.

Figure VIII-7
DoD Total Service Strengths
(000's)



LEGEND: GR — ENLISTED ---- OFFICER
* Clipped to reduce the scale. See Table VIII-2.

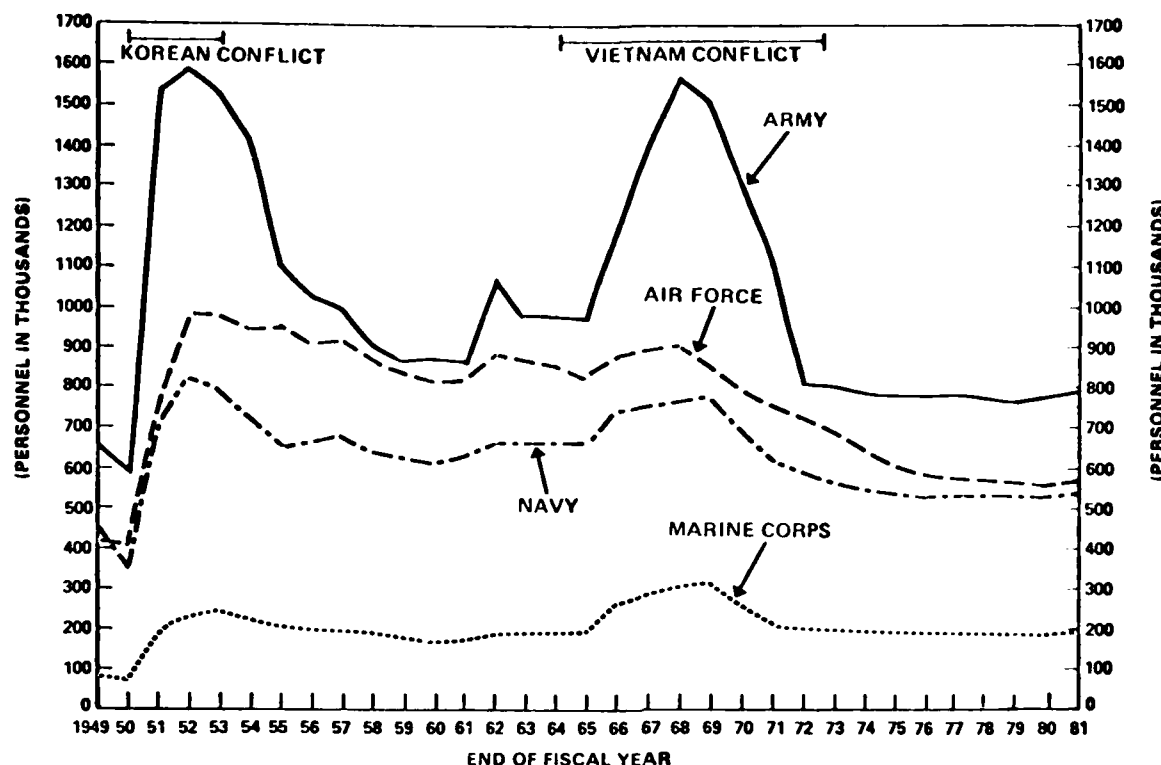
Table VIII-4
End of FY Strength (000's)

<u>Fiscal Year</u>	<u>Officer</u>	<u>Enlisted</u>	<u>Fiscal Year</u>	<u>Officer</u>	<u>Enlisted</u>
1938	26	297	1961	315	2,159
39	28	307	62	343	2,452
40	34	425	63	334	2,355
41	132	1,670	64	338	2,338
42	283	3,576	65	339	2,305
43	781	8,264	66	349	2,733
44	1,086	10,437	67	385	2,981
45	1,260	10,796	68	416	3,120
46	423	2,599	69	419	3,028
47	192	1,385	70	402	2,651
48	170	1,269	71	371	2,330
49	190	1,416	72	336	1,978
50	181	1,270	73	321	1,921
51	323	2,917	74	302	1,849
52	376	3,245	75	292	1,807
53	377	3,161	76	281	1,791
54	354	2,931	77	276	1,785
55	352	2,571	78	274	1,775
56	350	2,445	79	274	1,740
57	343	2,443	80	278	1,760
58	326	2,265	81	284	1,784
59	319	2,175	82	291	1,803
60	317	2,149	83	299	1,811

Figure VIII-8 displays the individual Service end strengths from FY49 through FY81. Here, one can see that the largest buildup was contained within the Army. All these data show a relatively stable overall force (DoD and Service-wide) for the last 10 years (FY73 and later). This period corresponds to the beginning of all-volunteer-force management and compensation policies, as well as a reasonable period of worldwide calm (no major armed conflicts). This force is significantly larger than both pre-World War II and pre-Korea. Unfortunately, these data do not allow any meaningful analyses about force management issues and the retirement system (other than the considerable impact a widely varying force size has upon the Services as they try to maintain a smooth and balanced flow of the required number of careerists through the 30-year personnel pipeline).

Figure VIII-8
DEPARTMENT OF DEFENSE
ACTIVE DUTY MILITARY PERSONNEL STRENGTH LEVELS -
TRENDS BY SERVICE

FISCAL YEARS 1949-1981



Figures VIII-9 and VIII-10 show the size of the enlisted and officer career forces (defined as the number of servicemembers with greater than 4 YOS) since FY53. These data were summarized from DMDC information contained in Appendix G, Tables G-1 through G-30. It should be clear from Figures VIII-9 and VIII-10 (and Figures G-3 and G-4, Appendix G) that the career force is a much more stable force than the total force. Further, the increasing enlisted career force size from the early 50's is a direct result of the older World War II personnel moving through the system. The data shows a peak in the number of servicemembers over age 40 in 1962, about 250,000, followed by a steady decline to about 125,000 in the early 1980's. The officer career force size has declined steadily over the entire 30-year period, even though the over-10 YOS and over-20 YOS strengths increased in the 1950's and 1960's, respectively. Only recently has the decline in the career force been turned around.

The fact that the career forces are more stable is indicative of a steady pull of careerists through the years. The individual cohort data, depicted in Appendix G, Tables G-31a through G-40b, are even

more revealing. These tables show how many of those individuals who were assessed in the same year (a given cohort) are remaining on active duty at the end of each year of service from 1 through 30 years. The DoD-wide data (Tables G-31a, G-31b, G-36a and G-36b) were used by the QRMC to build three-dimensional models of the officer and the enlisted forces for years-of-service 4 through 30. Figures VIII-11 through VIII-18 are photographs of these models.

Figure VIII-9
DOD TOTAL SERVICE STRENGTHS - OFFICER
(THOUSANDS)

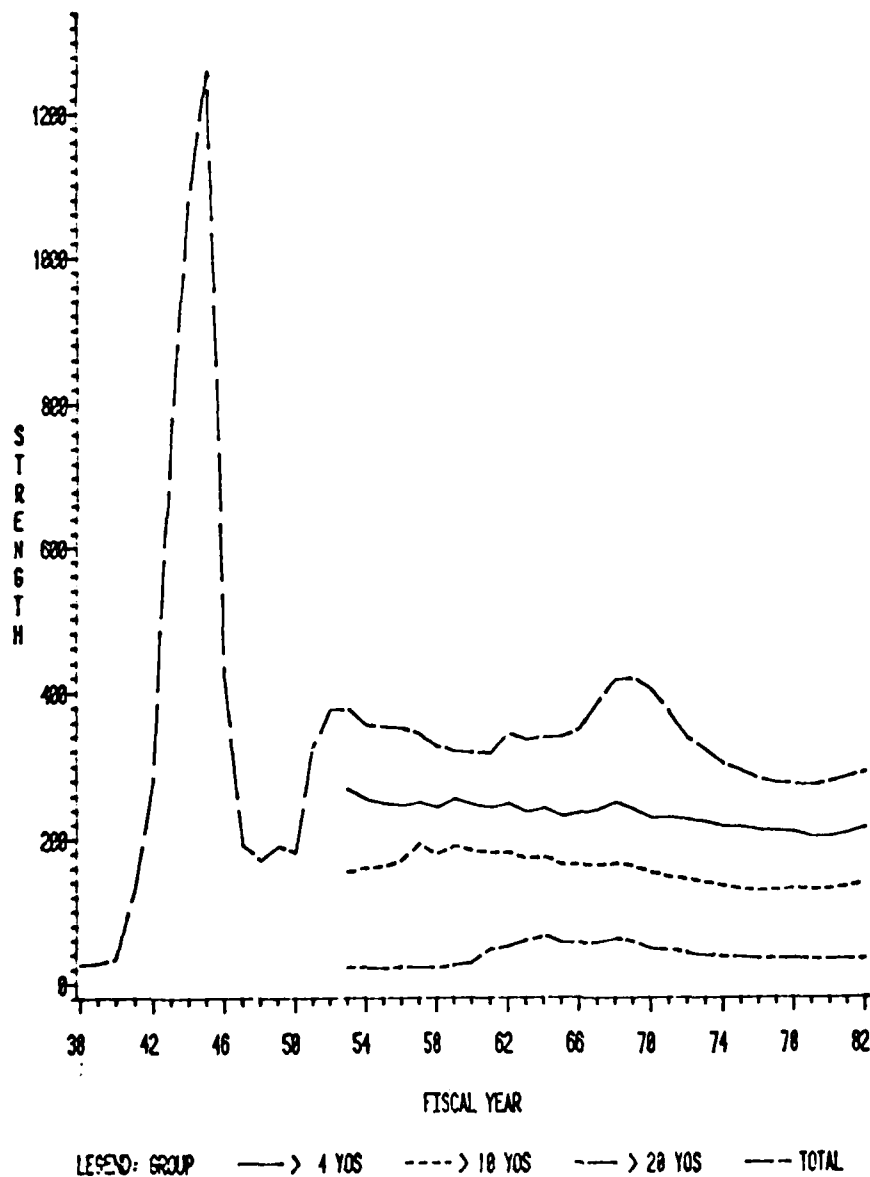
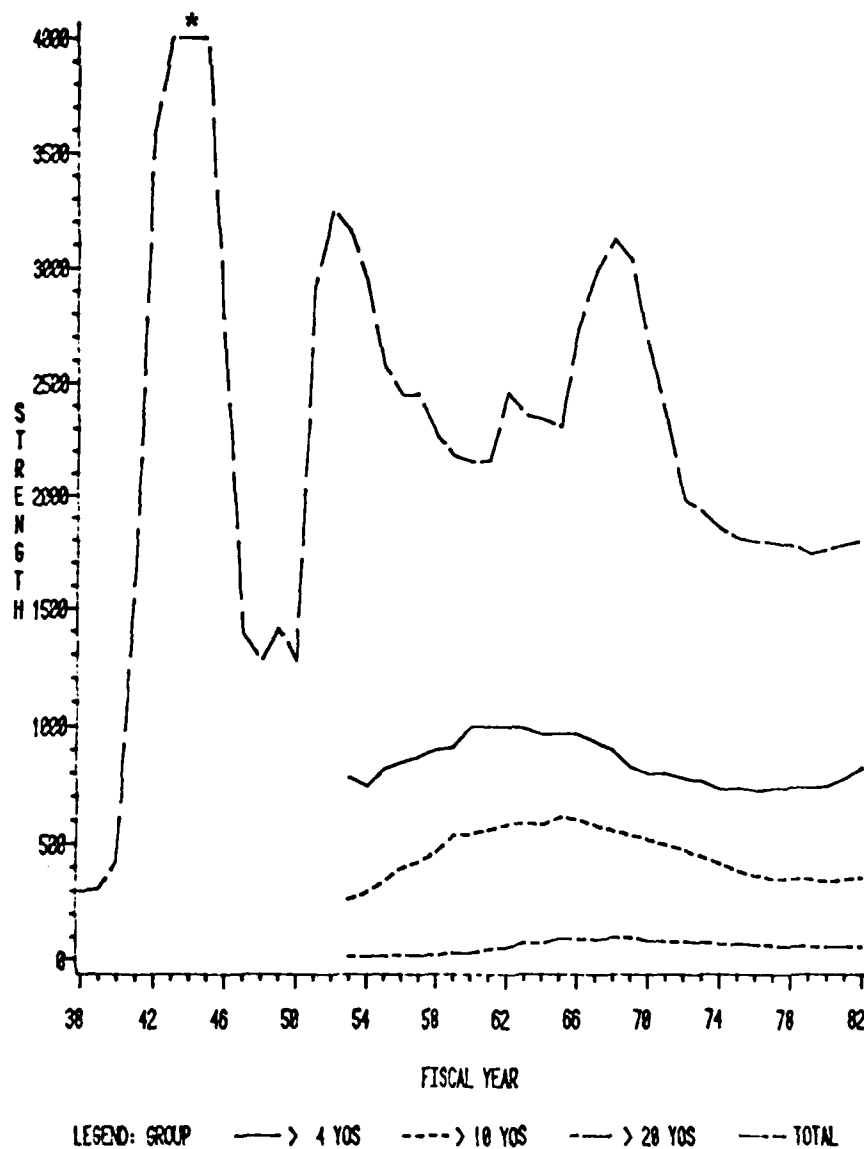


Figure VIII-10

DOD TOTAL SERVICE STRENGTHS - ENLISTED (THOUSANDS)



* Clipped to reduce the scale. See Table VIII-2.

Figure VIII-11
Historical Strength Model -- Officers YOS 4-23 (Front View)

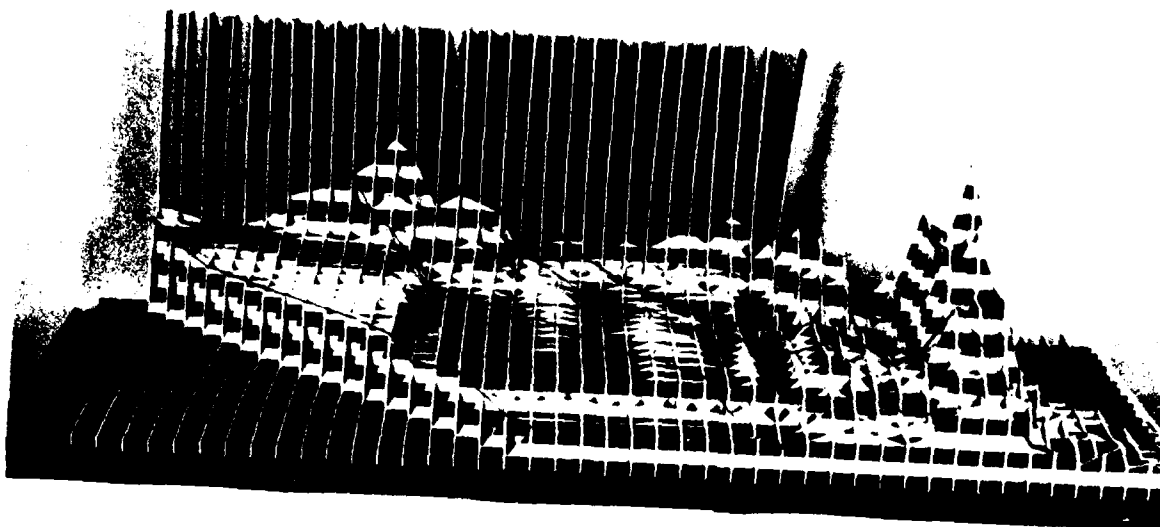


Figure VIII-12
Historical Strength Model -- Officers YOS 4-23 (Side View)

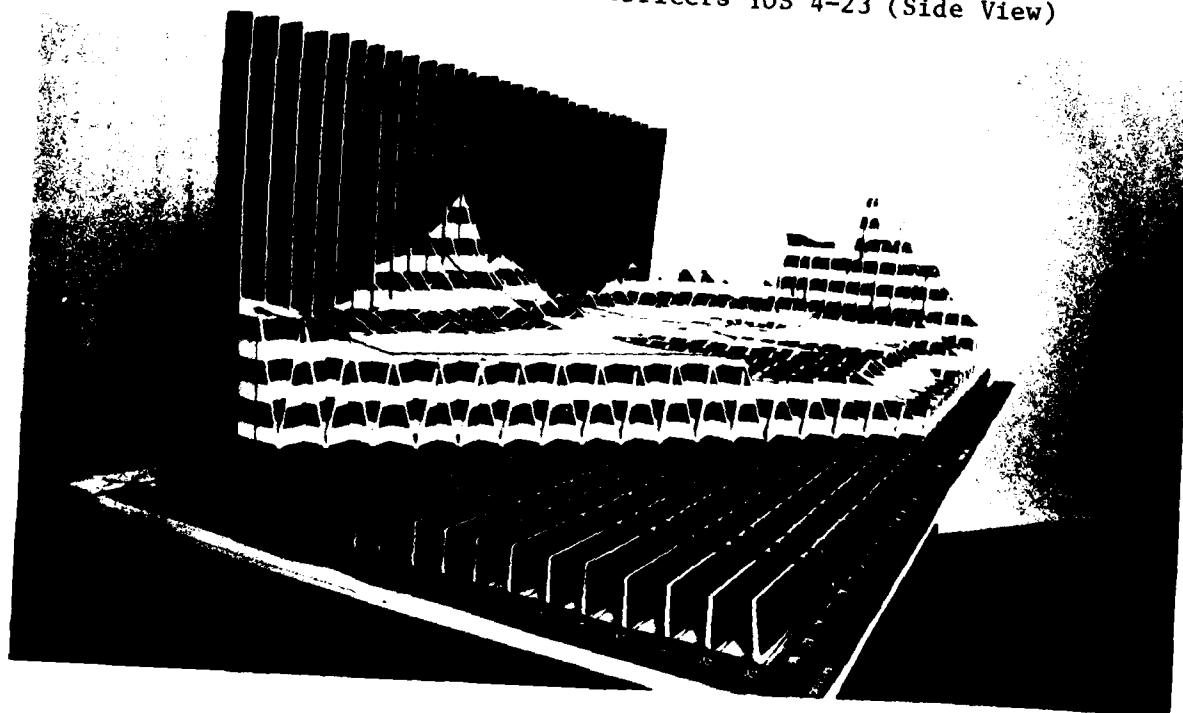


Figure VIII-13
Historical Strength Model -- Officers YOS 19-30 (Front View)

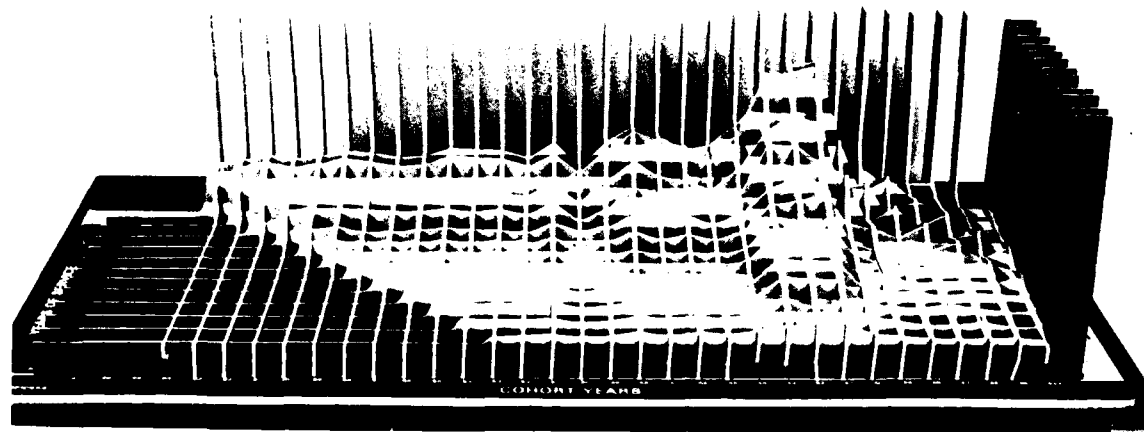


Figure VIII-14
Historical Strength Model -- Officers YOS 19-30 (Side View)

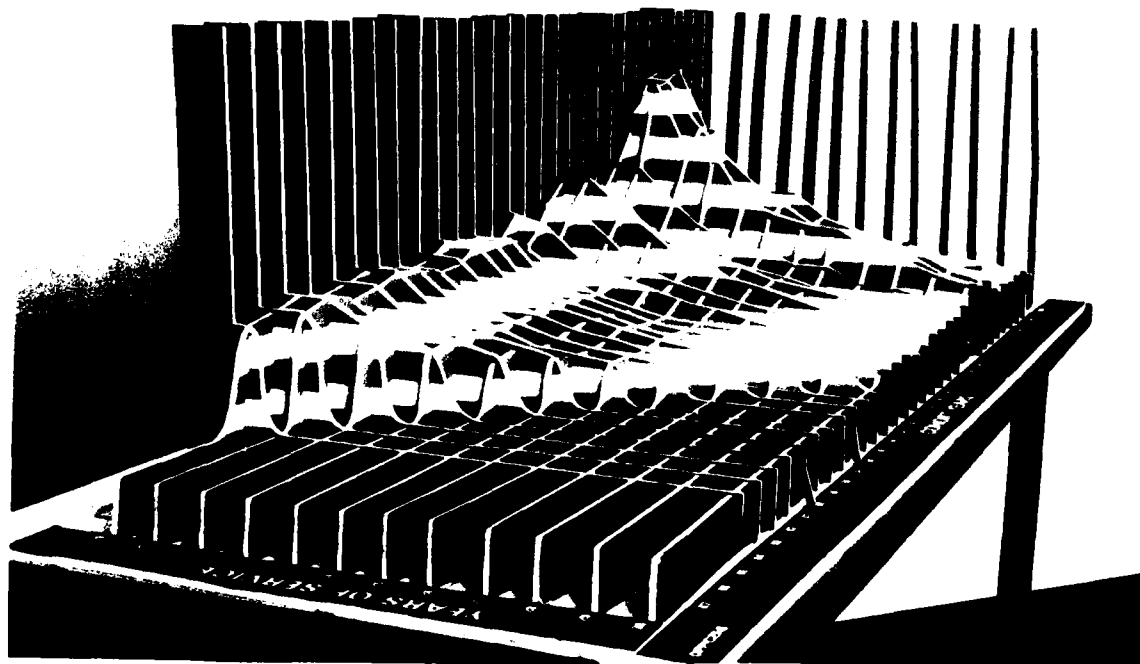


Figure VIII-15
Historical Strength Model -- Enlisted YOS 4-23 (Front View)

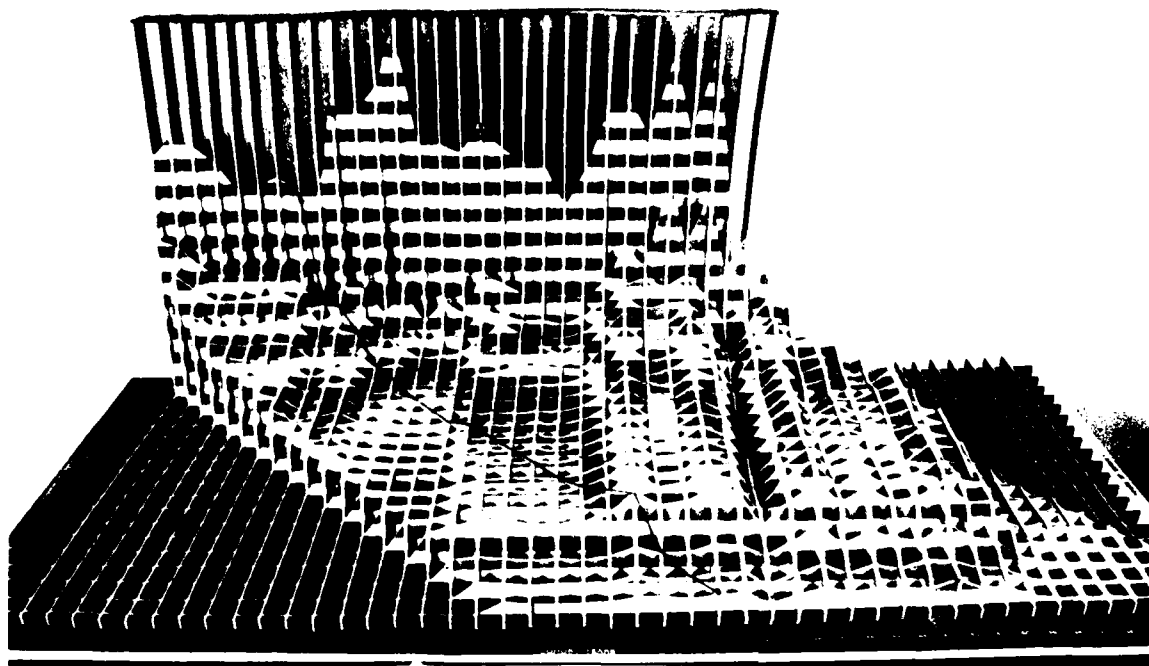


Figure VIII-16
Historical Strength Model -- Enlisted YOS 4-23 (Side View)

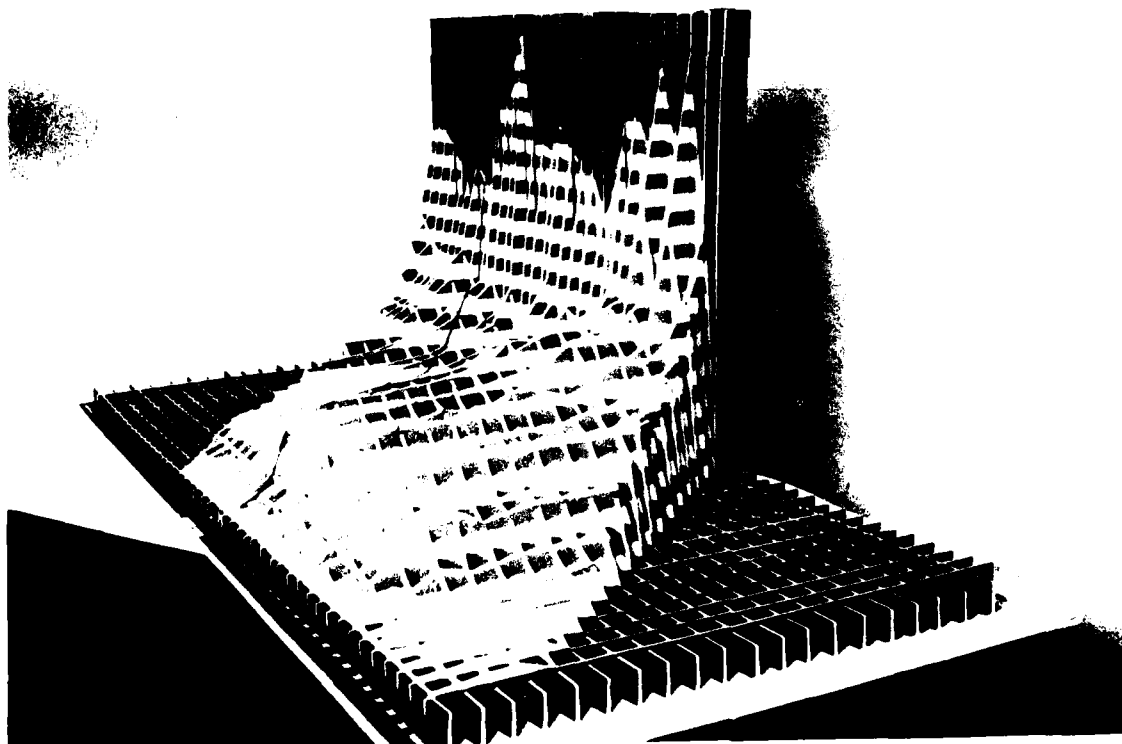


Figure VIII-17
Historical Strength Model -- Enlisted YOS 19-30 (Front View)

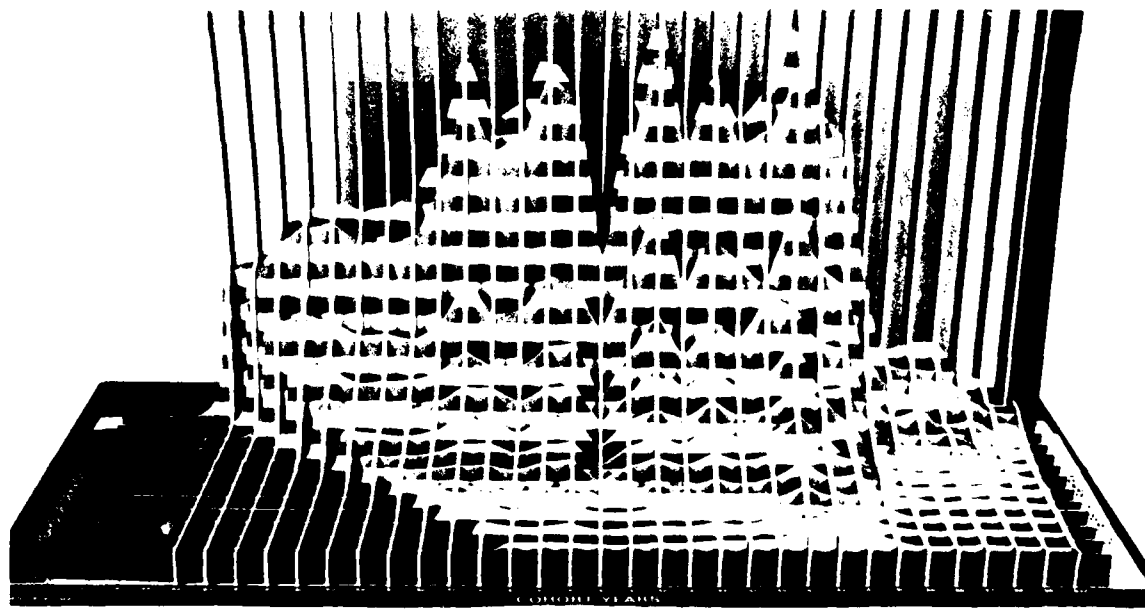
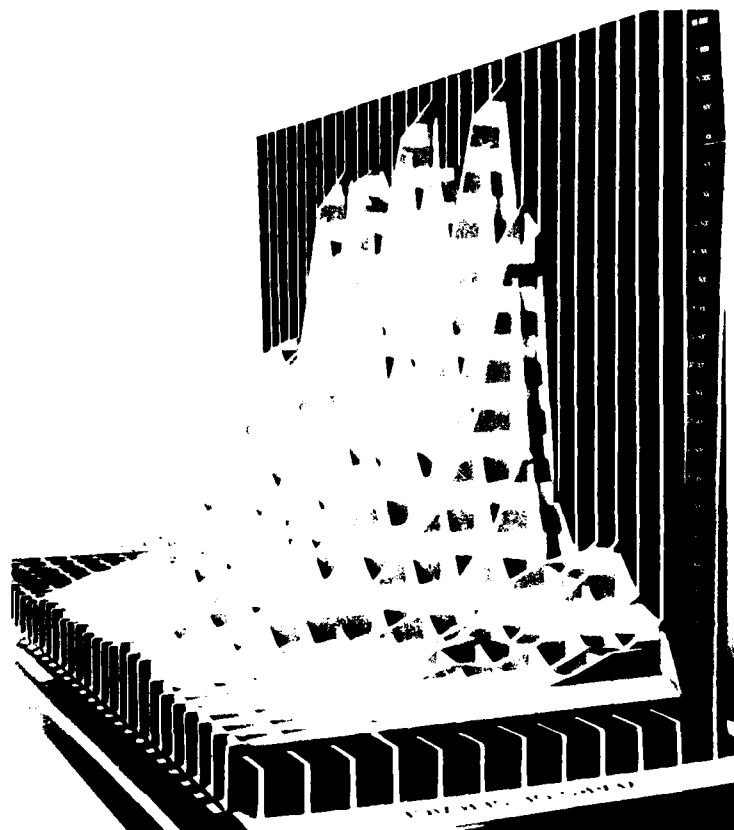


Figure VIII-18
Historical Strength Model -- Enlisted YOS 19-30 (Side View)



As one views these models, it becomes clear that, starting at the eighth or tenth year, there is a very high and similar year-to-year continuation of any cohort group. This phenomenon is generally associated (and probably correctly so) with the strong incentive at that point to remain to at least the 20th year in order to achieve retirement eligibility. However, because of the many and varied force management actions taken over this long period, it is both difficult and impractical to make any finite measurements concerning the relative efficiency of the retirement system based on these observations alone. There is ample evidence in numerous DoD and Service surveys to substantiate the increasing long-term pull of retirement taking effect at about this same time. In the case of enlisted personnel, this point generally corresponds to the second reenlistment point. More convincing is the DMDC officer and enlisted continuation data for the period FY74 through FY82 contained in Appendix G, Tables G-51 through G-60. Figures VIII-19 and VIII-20 illustrate these data for DoD for FY74, FY82 and for a seven-year average of FY76 through FY82. Figure VIII-19 shows the enlisted profile which is characteristic for DoD and each Service. The first four years of service represent a screening period (three years for the Army). Beginning the sixth year, the continuation rate is in the mid-eighty percents and increases, on average, about one percent per year until the 19th to 20th year. The peaks at the 22nd and 26th YOS are in response to both higher promotion expectations for those remaining and the longevity step pay increases which occur at these points. Essentially, a large number of people are accessed initially, carefully screened during the first three to four years, and then formed into a stable, highly skilled 15-year work force. Reduced Service requirements beyond the 20th year, coupled with attendant limited promotion opportunities, have created the large reduction in the 20th and subsequent years of service. This phenomena was seen in Figures VIII-11 through VIII-18, regardless of the size of the enlisted cohort group or Service.

Figure VIII-20 shows similar data for the officers (warrant officers are excluded). It should be noted that the annual continuation rates are plotted against years of commissioned service rather than years of Federal service as was the case for the enlisted group. Several differences are apparent which further complicate the ability to make judgments about either force management policy decisions or the effect of the retirement system. First, it is clear that initial quality screening for officers is completed before an individual is commissioned (e.g., during ROTC affiliation). Therefore, the first dip in continuation rates, which comes at the end of the initial period of obligated service, is much less severe than the comparable enlisted dip. Thereafter, it is similar to that of the enlisted force (i.e., stabilized). The officer rate exhibits some pre-20 dips; however, it is not as pronounced at 20. This is because the officer force is comprised of a sizeable number of prior-enlisted servicemembers. The slight valley at 10 years' commissioned service is associated with the first retirement eligibility point for this group. The continued losses from that point forward reduces the dip at 20 YOS. Figures I-10 through I-14, Appendix I provide more data concerning this aspect and describe how it was handled in the QRMC analyses.

Figure VIII-19

DOD ENLISTED CONTINUATION RATES

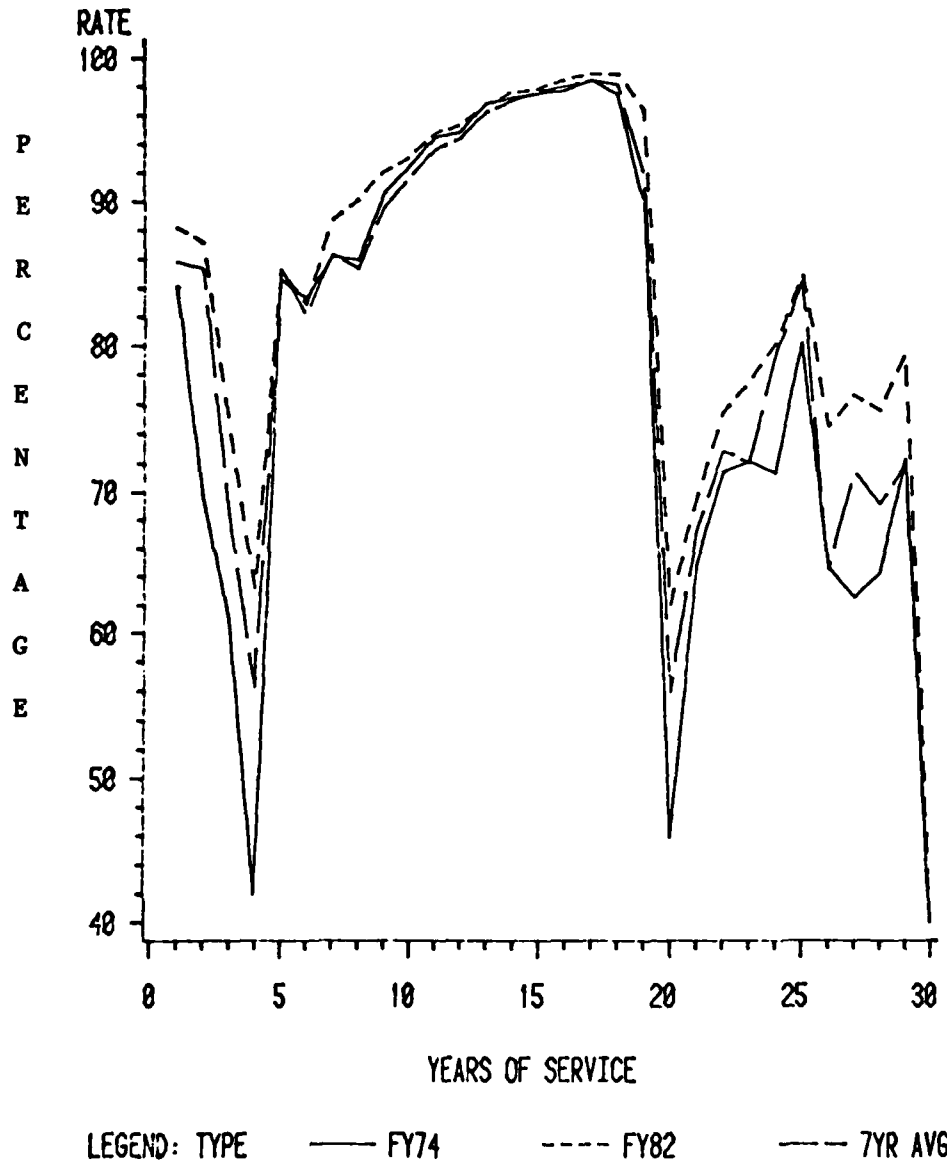
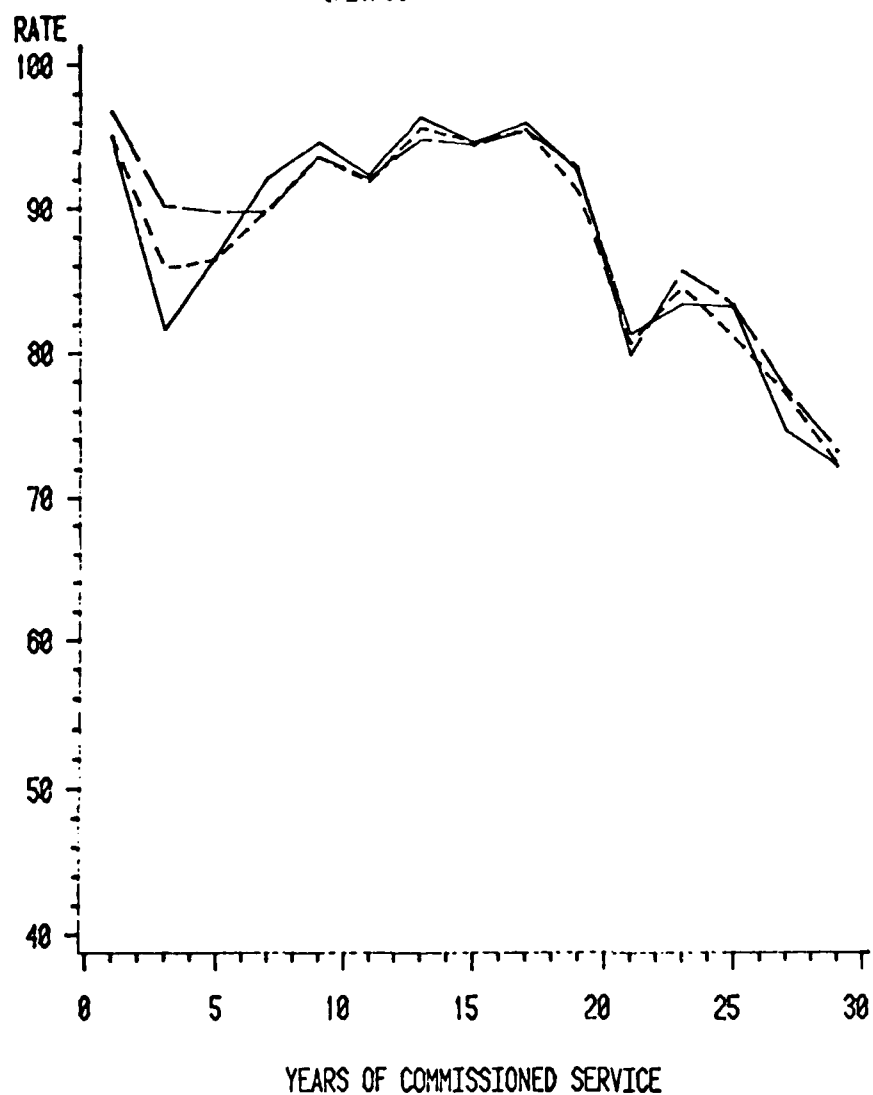


Figure VIII-20

DOD OFFICER CONTINUATION RATES (WITHOUT WARRANTS)

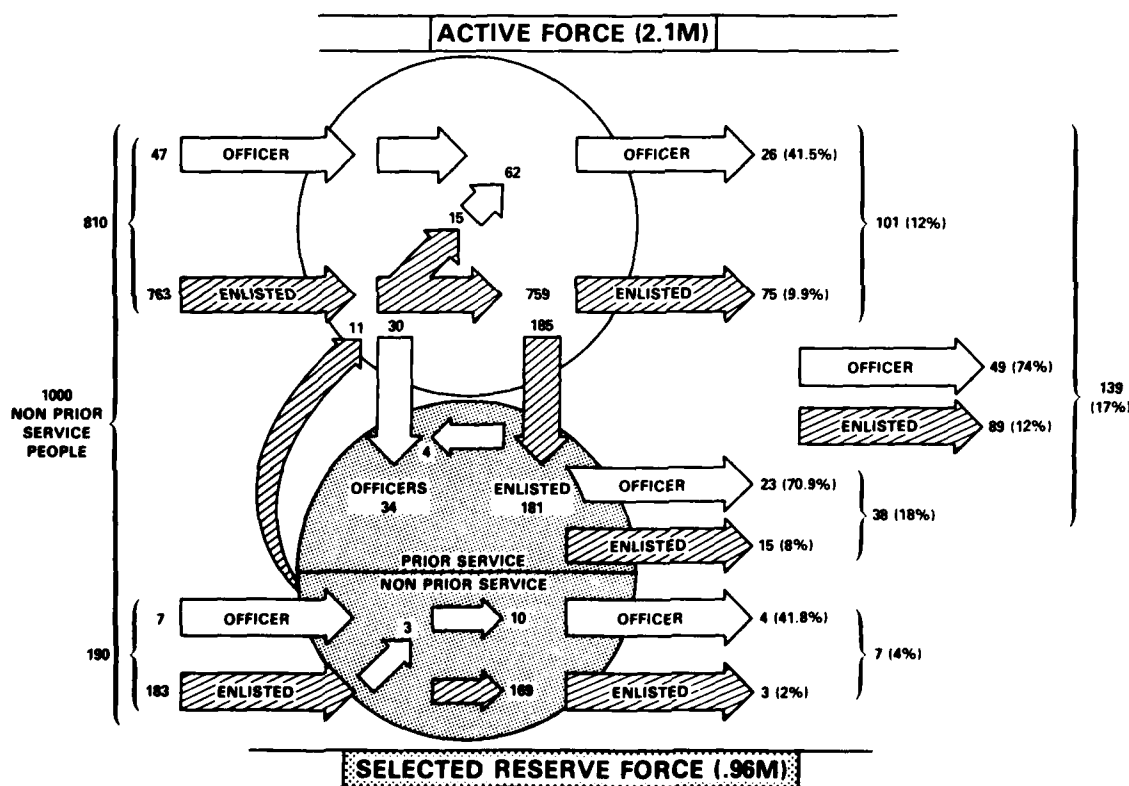


LEGEND: TYPE ——— FY74 - - - - FY82 - . - . 7YR AVE

Another way to gain insight into the strength of the incentive value of the retirement system is to examine the number of individuals in each year group (cohort) who actually retire. An analysis of the cohort groups reaching retirement eligibility (20 YOS) during the period from FY73 through FY82 indicated that about one out of three active enlisted members who serve beyond 4 YOS retire, and between 6 to 7 out of every 10 active officers who serve to 5 YOS retire. The DoD-wide force decrement rates (based upon the last five years' experience) for both the active and reserve forces were then examined. These rates were derived from the DoD Actuary FY82 Retirement Valuation Model and were used to construct Figure VIII-21. Any change in force size will increase or decrease the number but not change the percentages. The retirement percentages are and have been reasonably stable. Management policy decisions can and have influenced these percentages.

Figure VIII-21

**TOTAL FORCE (DoD) NON DISABILITY RETIREMENT
ELIGIBILITY PROCESS
ACTIVE FORCE (2.1M)**



On the basis of a constant active force size of about 2.1 million and about 1.0 million in the Selected Reserves, and using the long-term projection of the force experience, the last 5 years indicate that 146 out of each 1,000 new (NPS) entrants into the total force (active and Reserve forces) will earn non-disability retirement. About 76 of these 1,000 people will become commissioned officers (54 upon entry, 22 by subsequent appointment from an enlisted source) and, of these, 53 (70%) will retire (26 from the active force, 27 from a Reserve Component -- 23 of whom will have entered the component after first serving in the active forces for an average 4.8 years). The other 924 of these 1,000 will be enlisted personnel. Some 93 will reach retirement (75 from the active force, 18 from a Reserve Component -- 15 of which will have had 3.6 years prior active force service). A specific explanation of this derivation is as follows:

1. Active Force Accessions and Non-Disabled Retirees. To maintain an active force size of 2.1 million (291,000 officers/1,800,000 enlisted in FY82) for the long term requires an average of about 342,600 annual accessions, 20,100 officers and 322,500 enlisted personnel, into the active force. Approximately 6,300 of these enlisted entrants will receive appointments as commissioned officers, thereby changing the final officer/enlisted ratio to 26,400/316,200. An active force accession base of this size will produce about 11,000 officer (41.5%) and 31,300 enlisted (9.9%) non-disabled retirees, an overall rate of 12% retiring from the active force only.

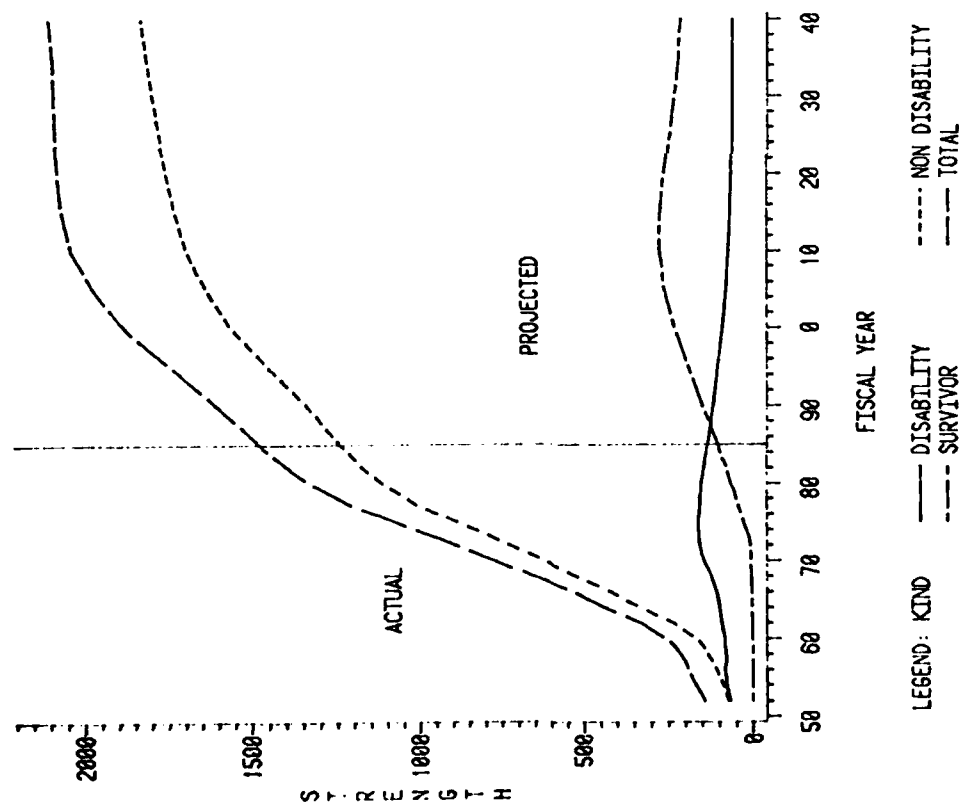
2. Selected Reserve Accessions and Non-Disabled Retirees. To maintain a Selected Reserve of about 963,100 (135,800 officers/827,300 enlisted) over the long term, requires about 171,400 annual accessions (80,600 NPS and 90,800 prior service), 15,200 officers and 156,200 enlisted members. Some 2,900 officers (19%) enter as non-prior service (NPS) accessions of which some 1,800 (63%) will reach retirement. The remaining 12,300 will enter with prior active service of between 1-15 years (an average of 4.8 years). Fifty percent of the enlisted accessions (77,900) will be NPS. The remainder will enter from the active force having anywhere from 1 to 15 years prior service (an average of 3.6 years). Re-entry may occur directly following separation from active service or sometime much later. The largest single number will come from civilian life. The Inactive Ready Reserve (IRR) is the next largest source. Approximately 2,880 (1.8%) of the enlisted accession base of 156,200 will earn a commission in the Selected Reserve (roughly divided equally between the NPS and prior-service entrants). These additional officers will reduce the Selected Reserve NPS share (1,800/2,900 + 1,440) to a net of about 42% (was 63%). Of the NPS enlisted entrants directly into the Selected Reserves, only about 1,300 will retire (2%). The total retirees from the Selected Reserve will be about 11,600 officers and 7,600 enlisted. That means some 9,800 officer retirees and 6,300 enlisted retirees (7,600 - 1,300) will result from the prior-service accessions (officers: $9,800/15,200 - 2,900 + 1,440 = 71\%$; enlisted: $6,300/78,300 - 1,440 = 8\%$).

E. RETIREE POPULATION TRENDS. Figure VIII-1 (discussed earlier in this section) displayed the last 30 years of buildup in the retiree population. Figure VIII-22, using the FY82 DoD Actuary Retirement Valuation Model (GORGO) projections, illustrates the projected growth for the same data over the next half-century. Figure VIII-23 projects the individual Service data as was displayed in Figure VIII-2. Figure VIII-24 illustrates the projected growth resulting from the non-disabled and disabled retiree (no survivors) sub-populations. These latter values are supportive of the cost data in Figure VIII-5 and Figures G-1 and G-2, Appendix G. As can be seen from these figures, the major growth period has passed. Over the next 30 years, assuming a constant 2.1 million active force size, the retiree population will grow about 50 percent and then fall off to a growth rate of about 5 to 6 percent per year. This is solely due to increased life expectancy rates. The projections indicate that we will be reaching a stable new annual retiree gain in the fiscal year 2030 timeframe. Table VIII-5 shows the total projection of a stable annual output of new non-disabled retirees of about 62,000, based upon a constant active force size of 2.1 million and a Reserve Component force of just over 927,000. (These retiree figures are the combined annual output of all eligible year groups (cohorts) and should not be confused with the cohort percentages). Also, the survivor population will mature and the disability retiree population will continue to decrease. Figure VIII-23 shows the Services' projections also leveling out.

Figure VIII-25 shows the Reserve Components (Title III) retiree projection as compared to the total. It can be seen that a major portion of the increased retiree population is due to continued reservist growth in the early 21st century, most of which is comprised of officer retirees. This is consistent with data displayed in Figure VIII-21. Further examination of the reservist retiree picture is illustrated in Figures VIII-26 through VIII-29 which show the total DoD-wide reserve retiree growth and number of retirees for each Service. The figures display the continued increase of new annual retirees for the next 25 years until it stabilizes at about 18,500 per year (10,900 officers and 7,600 enlisted). The 3-to-2 officer-to-enlisted ratio remains in stark contrast to the 1-to-4 ratio for the active officer and enlisted annual retiree output.

Figure VIII-22

DOD RETIREES AND SURVIVORS (THOUSANDS)



VIII-29

Figure VIII-23

TOTAL DOD RETIREES AND SURVIVORS BY SERVICE (THOUSANDS)

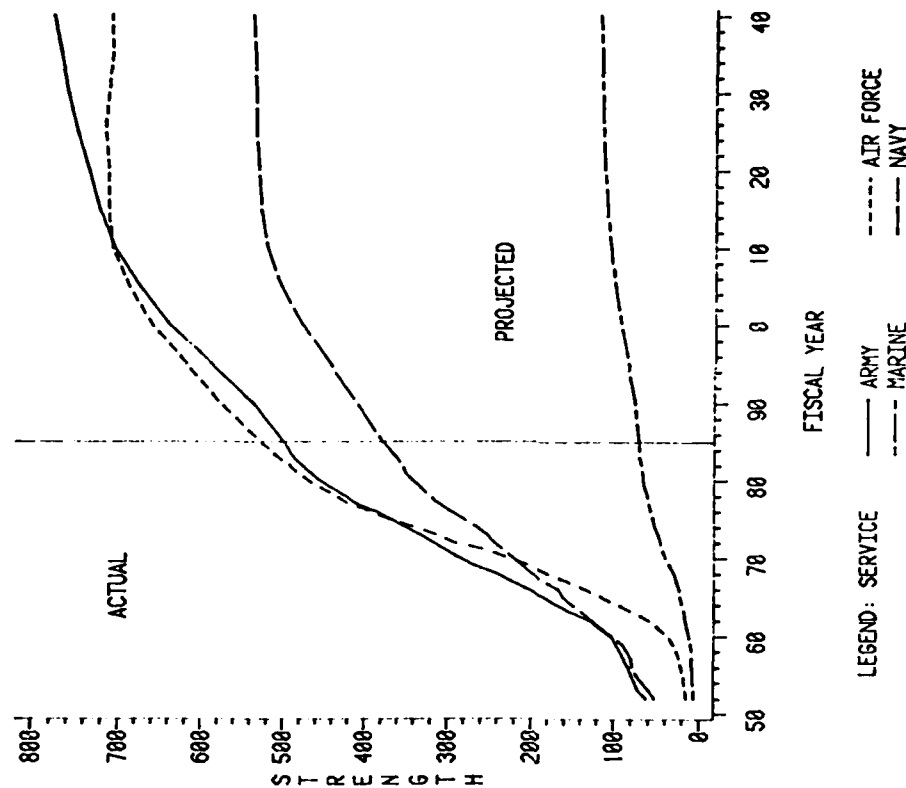


Figure VIII-24

TOTAL RETIREE POPULATION (NON-DISABLED, DISABLED)

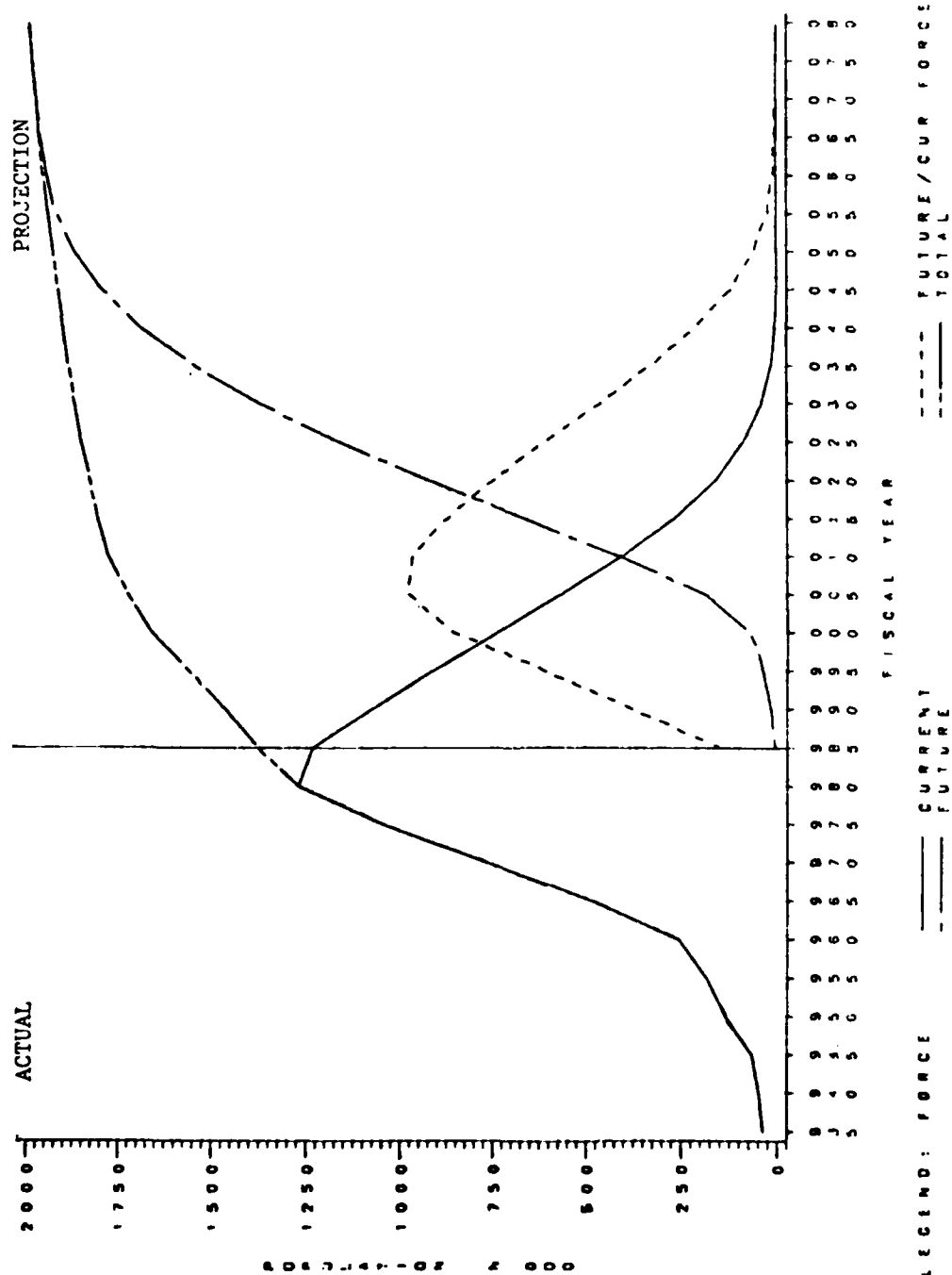


Table VIII-5
Long-Term Projection
of Annual, New Non-Disabled Retirees

<u>OFFICER</u>	<u>ARMY</u>	<u>NAVY</u>	<u>MARINES</u>	<u>AIR FORCE</u>	<u>DOD</u>
ACTIVE	(106,472)* 3,562	(67,473) 2,863	(19,124) 700	(102,534) 3,735	(295,603) 11,575
TITLE III	(84,776)* 4,502	(17,254) 2,669	(3,153) 442	(26,087) 3,962	(131,270) 10,860
TOTAL	8,064	5,532	1,142	7,697	(426,873) 22,435
<u>ENLISTED</u>					
ACTIVE	(686,684) 11,303	(481,186) 8,195	(173,712) 1,881	(479,619) 10,642	(1,821,201) 32,021
TITLE III	(549,557) 3,216	(76,415) 2,497	(34,961) 183	(135,107) 1,714	(796,040) 7,616
TOTAL	14,519	10,692	2,064	12,356	(2,617,241) 39,637
<u>GRAND TOTAL</u>					
ACTIVE	(793,156) 14,865	(548,659) 11,058	(192,836) 2,581	(582,153) 14,377	(2,116,804) 43,596
TITLE III	(634,333) 7,718	(93,669) 5,166	(38,114) 625	(161,194) 5,676	(927,310) 18,476
TOTAL	22,583	16,224	3,206	20,053	(3,044,114) 62,072

* () FY82 Strengths -- fulltime active duty reservists included in active strengths only.

Figure VIII-25
DOD NON-DISABLED RETIREES
(THOUSANDS)

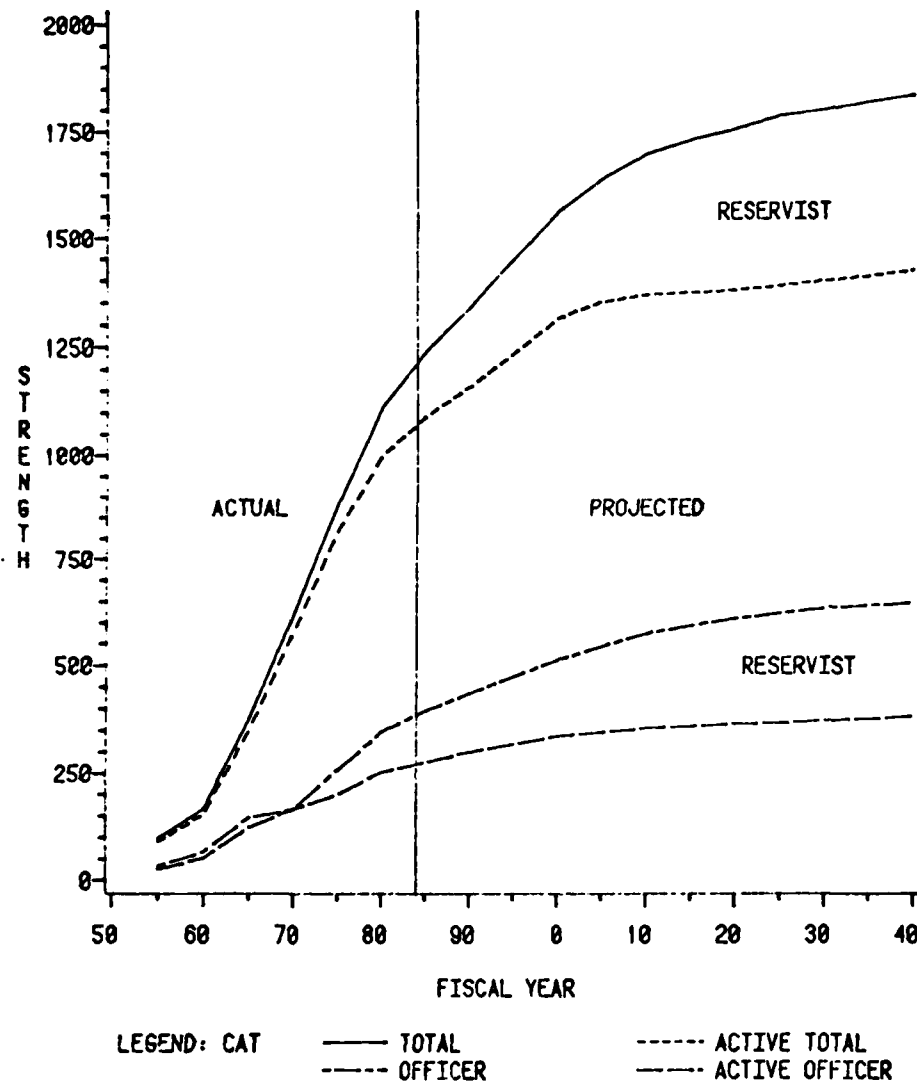


Figure VIII-26

TOTAL RESERVIST (TITLE III) RETIREES

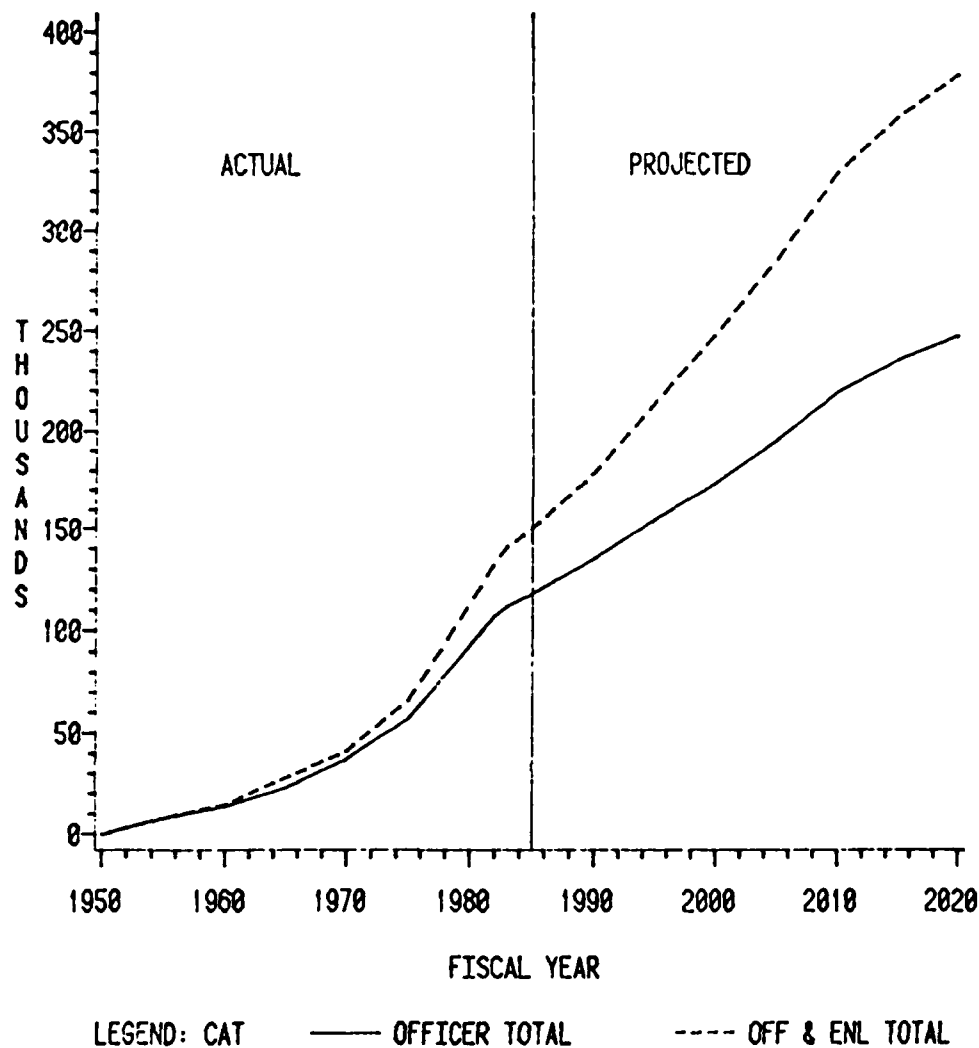


Figure VIII-27

TOTAL RESERVIST (TITLE III) RETIREES DOD AND BY SERVICE

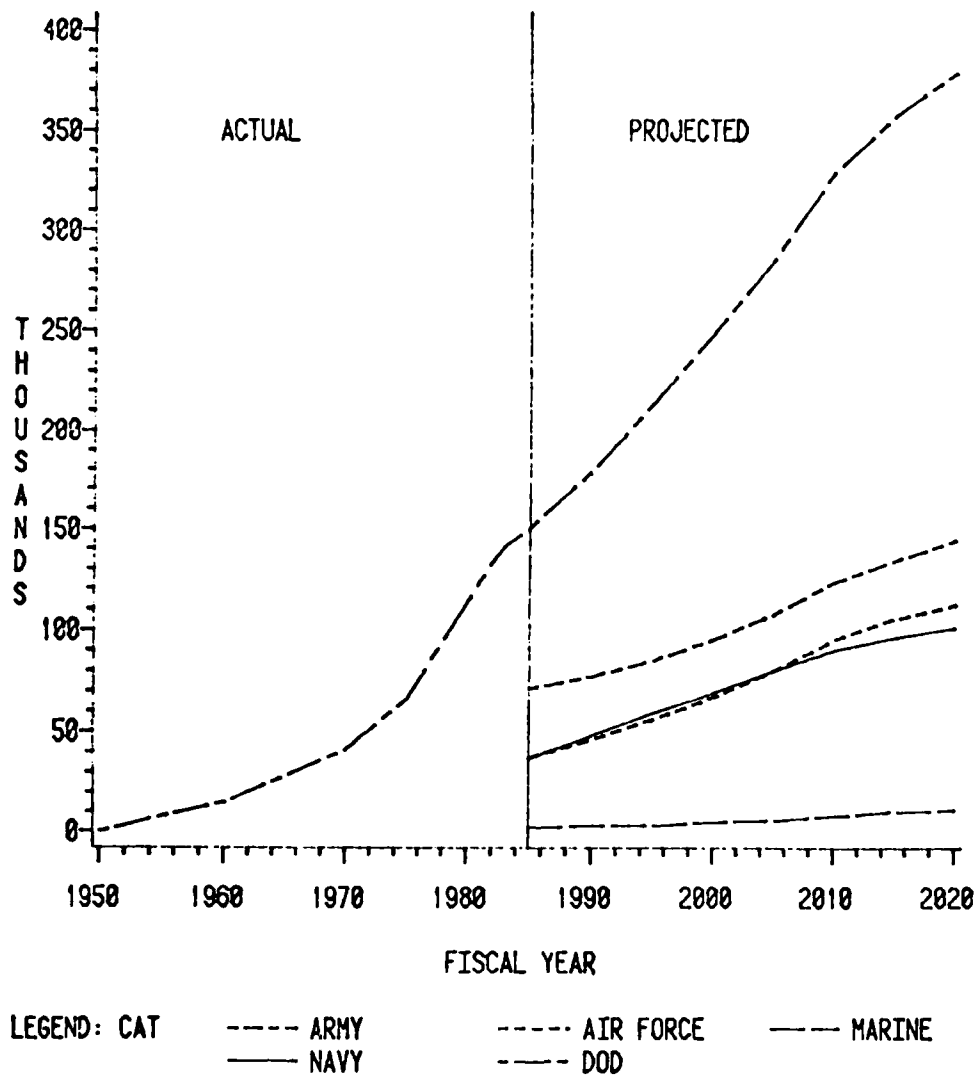
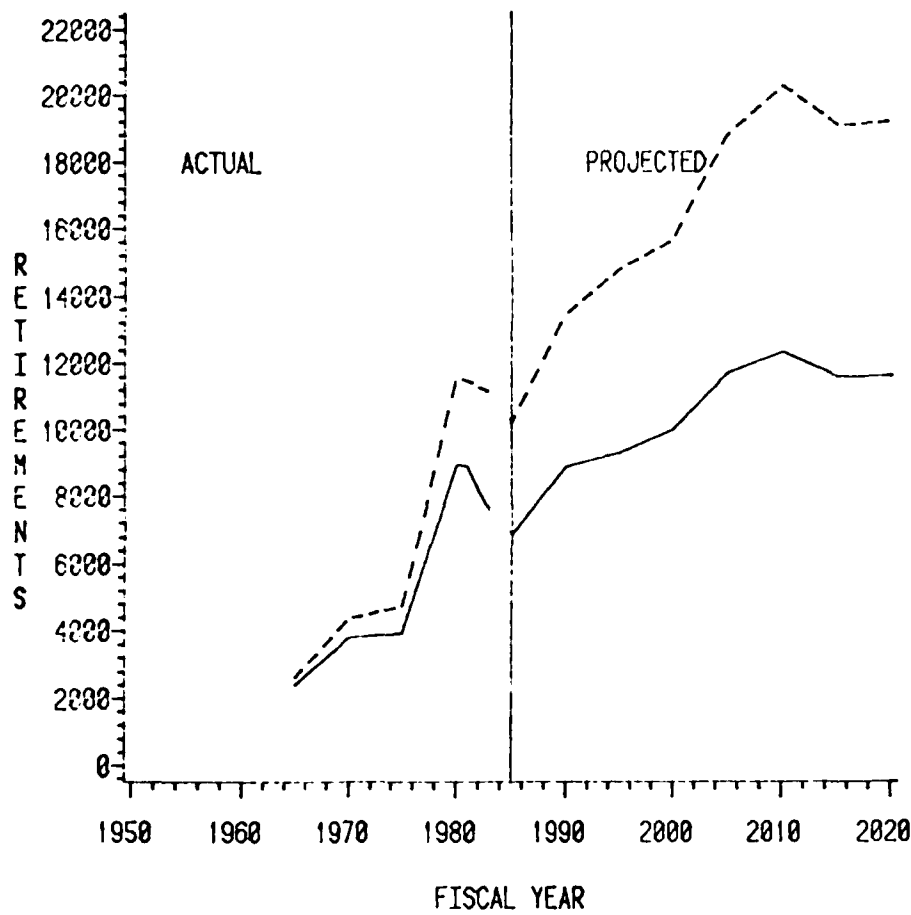


Figure VIII-28

ANNUAL RESERVIST (TITLE III) RETIREMENTS

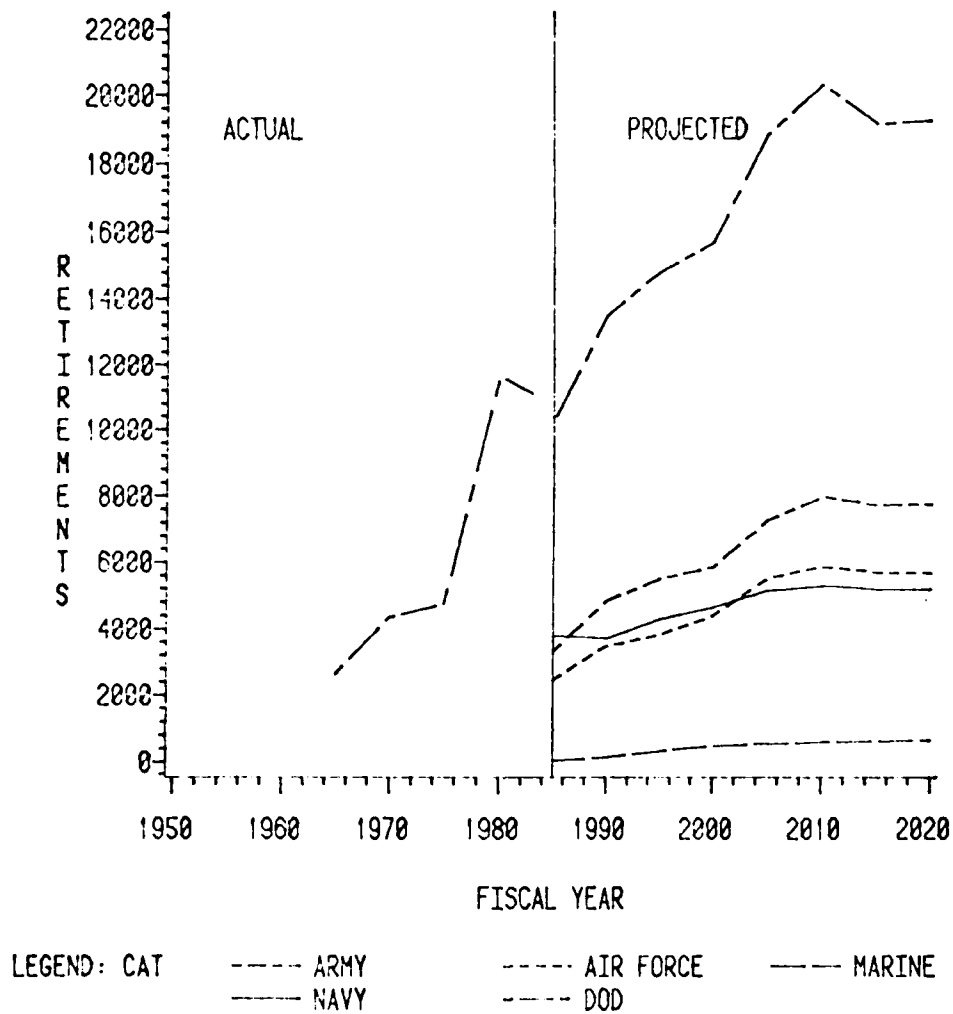


LEGEND: CAT ——— OFFICER ANNUAL - - - - OFF & ENL ANNUAL

Figure VIII-29

ANNUAL RESERVIST (TITLE III) RETIREMENTS

DOD AND BY SERVICE



With this view of the projected reduction in the growth rate of the retiree population and cost over the next fifty years, it is useful to examine the DoD and Service active force annual retirement eligible populations, the percent who actually retire, and the resultant number of retirees. Figure VIII-30 shows the actual and projected DoD total number of members retirement eligible (active force only) and the percent actually retiring. Figures VIII-31 and VIII-32 display these DoD data for officer and enlisted personnel, respectively. There are several interesting observations that can be made. First, the onset of the World War II eligibles starting in FY60 of both officer and enlisted members is quite clear. Second, the percentage of eligibles actually retiring increased until FY76. (A surge occurred in the early 1970's when the manpower ceilings were reduced after Vietnam). Third, Service retirement "stop actions" were taken in FY62 (Berlin) and FY66 (Vietnam). Fourth, there has been a steady drop in the percentage of eligibles retiring since the mid-1970's except in FY79 and FY80. This latter increase is attributed generally to the level of compensation dropping below what most servicemembers perceived to be necessary to satisfy their family responsibilities. It was accompanied by a drop in the annual continuation rates for a number of specific YOS cells (Table G-51 and G-56, Appendix G). Fifth, the projections of this data appear to be slightly inaccurate due to the continued decline in both the number of retirees and the percent retiring. This, of course, increases the percent eligible in subsequent years and likely the size of the career force as well. This latter affect is useful in the enlisted force because of the general shortage of members in the 10 to 20 YOS cells of the overall-DoD enlisted force profile. Figures VIII-33 and VIII-34 show the same data for each Service. Figures G-5 through G-12, Appendix G display the percent of retirement eligibles who actually retired by Service.

Figure VIII-30
DOD SERVICE RETIREMENT ELIGIBLE POPULATION

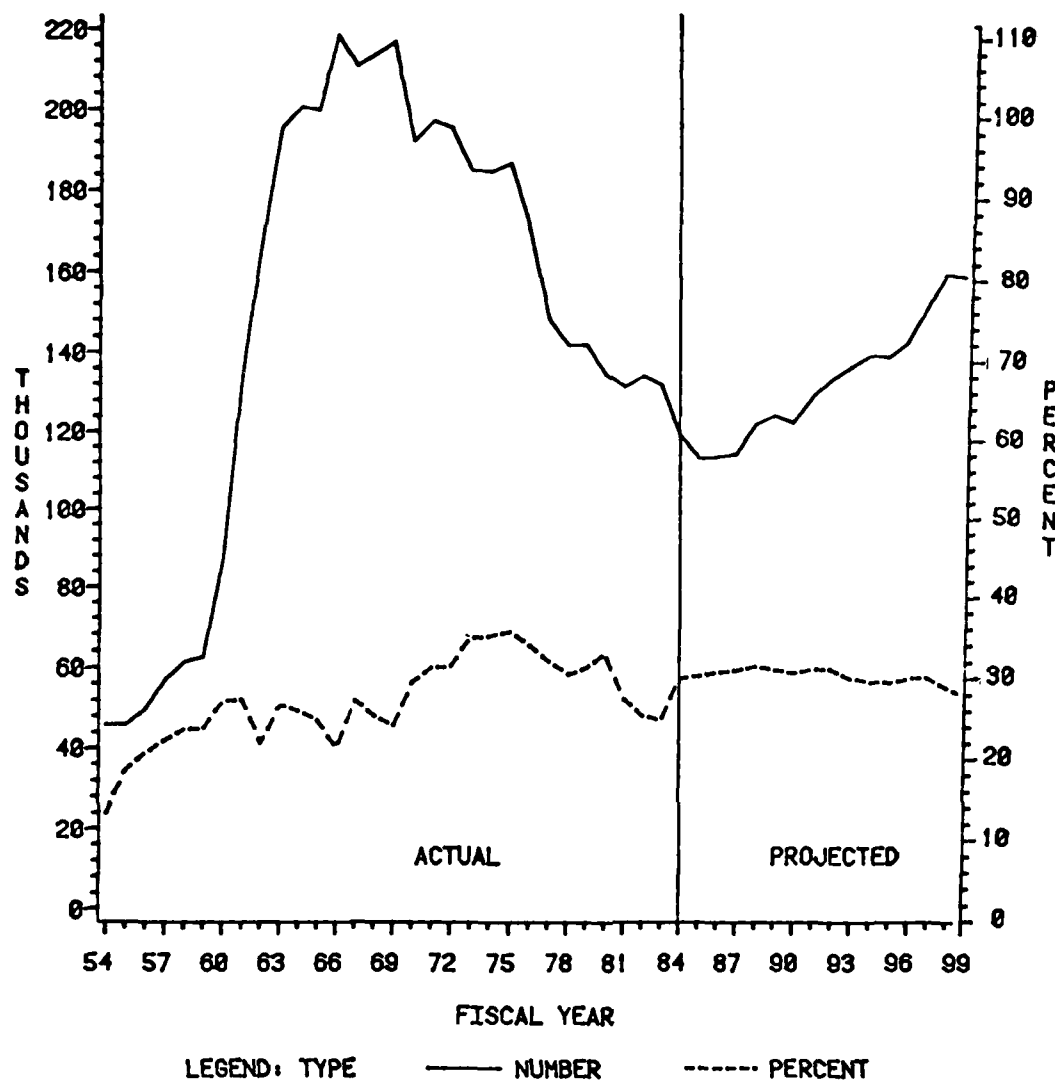


Figure VIII-31

DOD SERVICE RETIREMENTS AS PERCENT OF ELIGIBLE

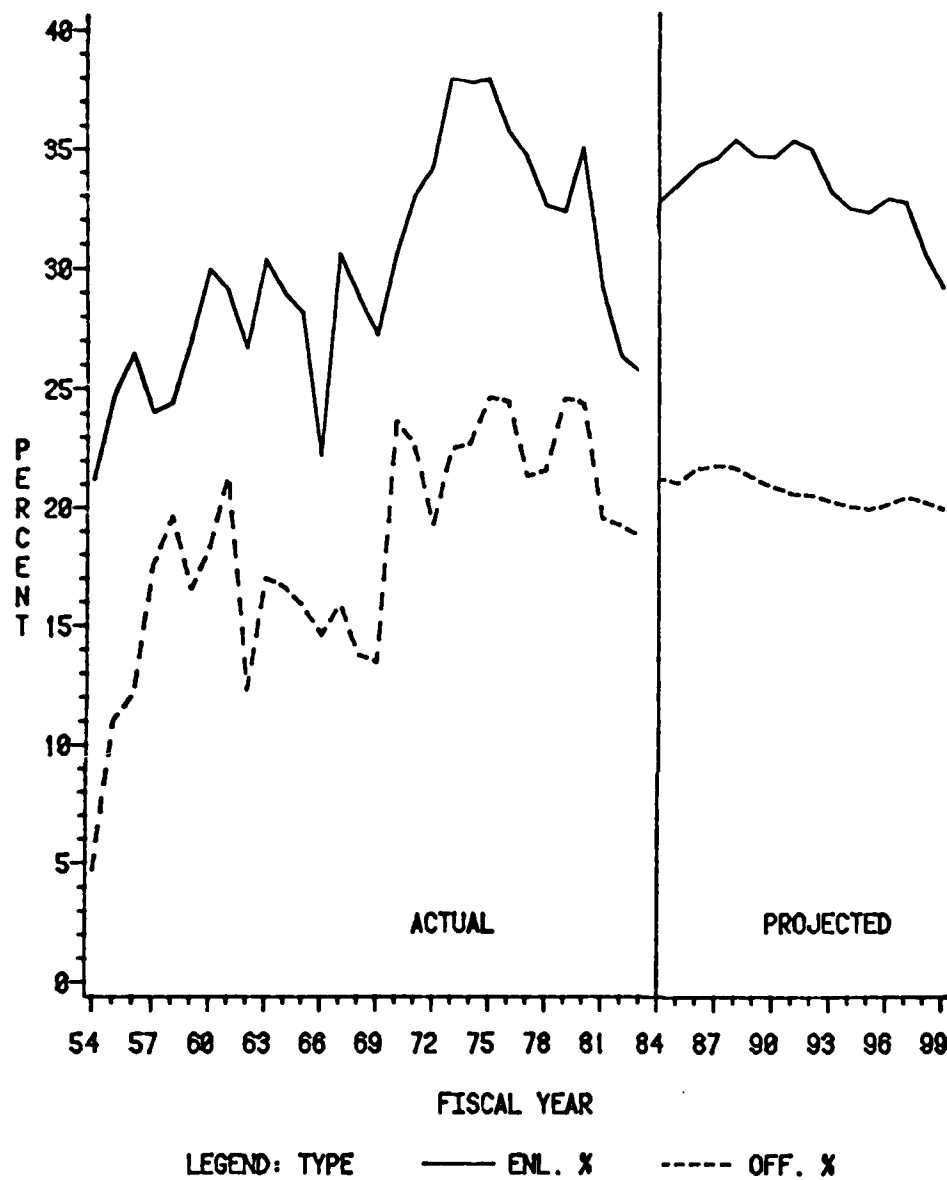


Figure VIII-32

DOD SERVICE RETIREMENT ELIGIBLE POPULATION AND NUMBER RETIRING

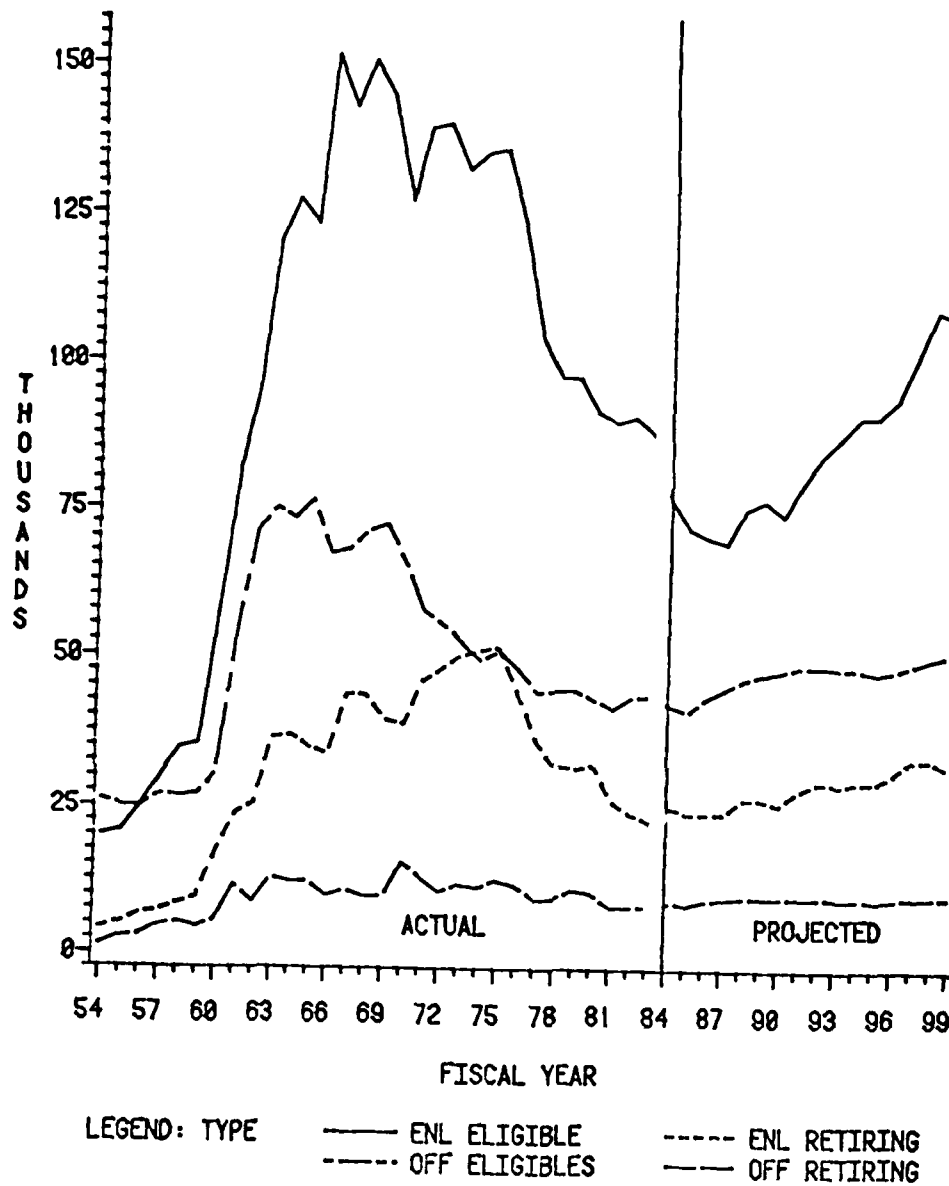


Figure VIII-33

DOD RETIREMENT ELIGIBLES

(THOUSANDS)

TYPE=OFFICER

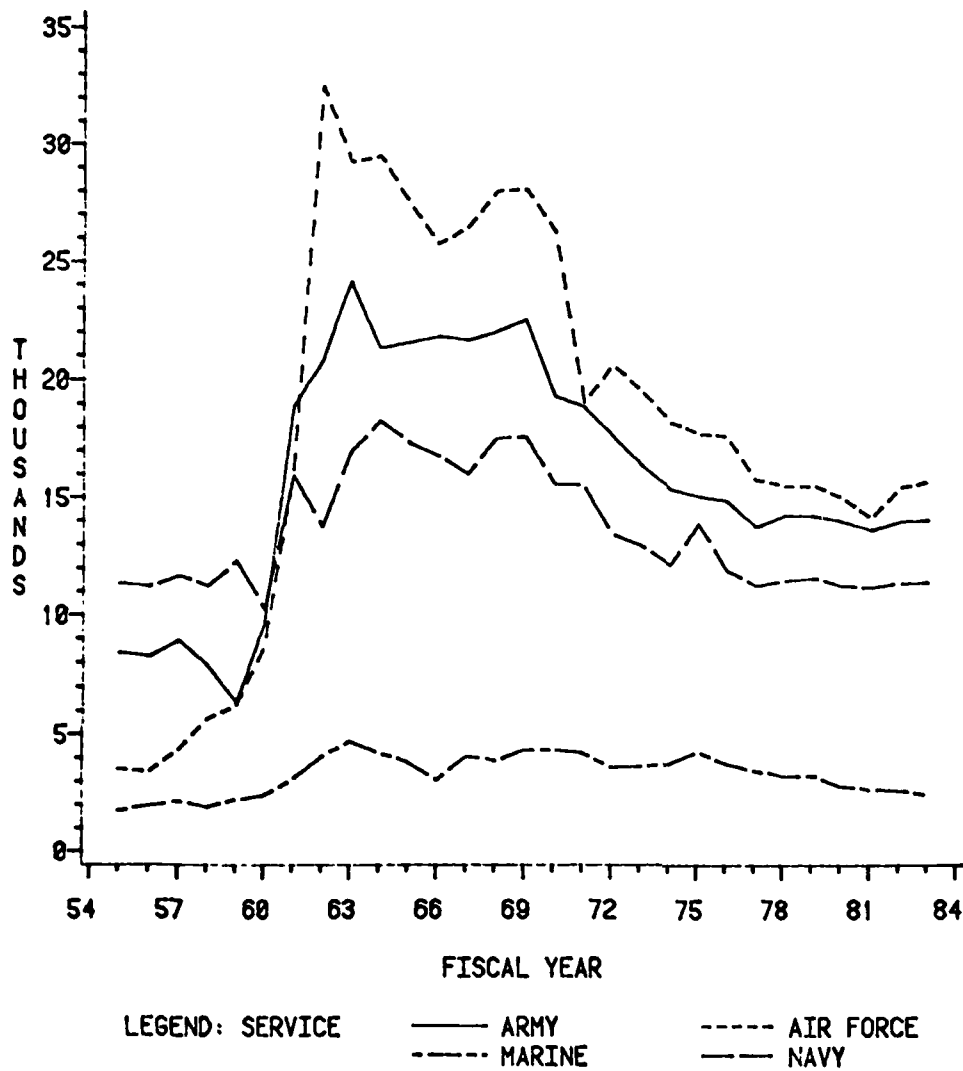
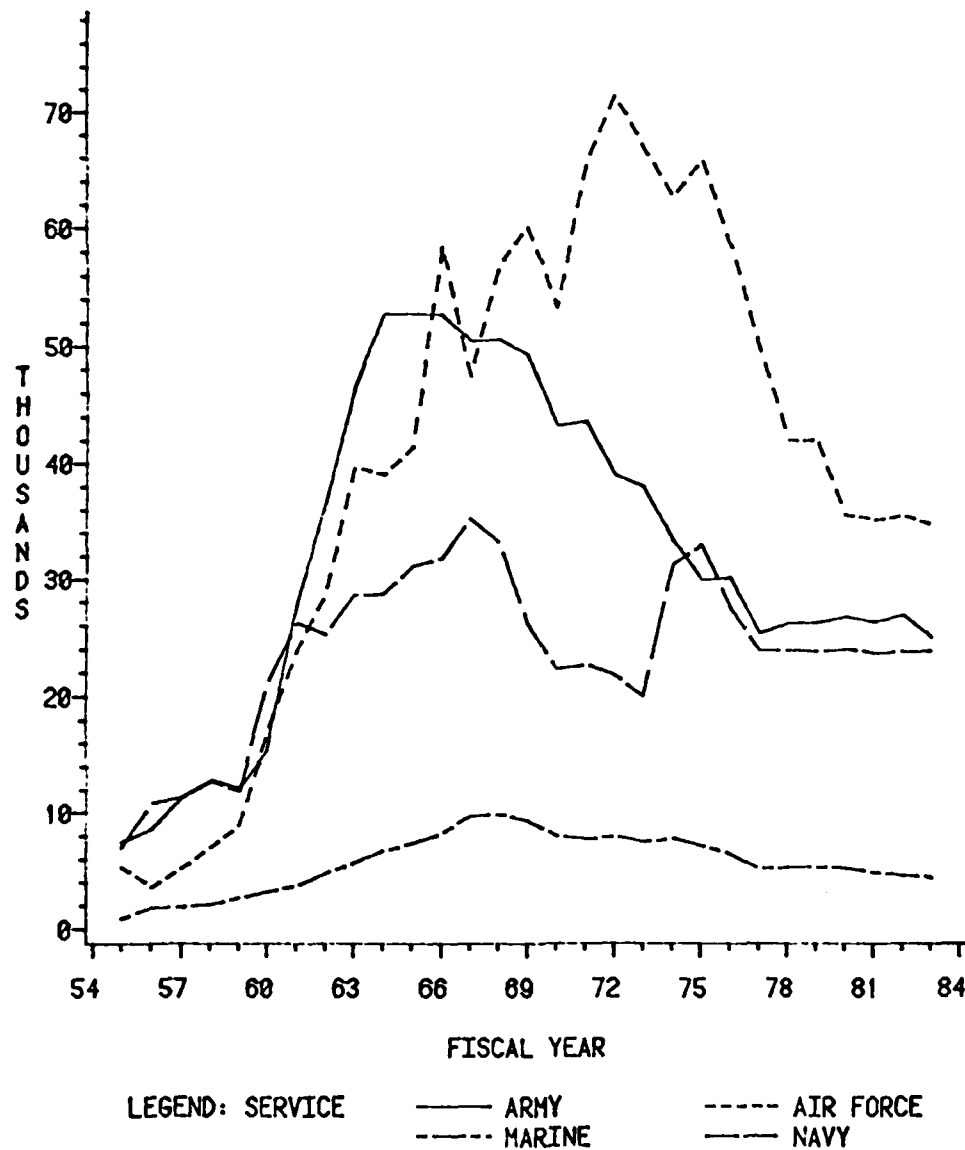


Figure VIII-34

DOD RETIREMENT ELIGIBLES

(THOUSANDS)
TYPE=ENLISTED



The decreasing number of retirees during the last decade is further substantiated by the years-of-service and age-at-retirement trends shown in Tables VIII-6 and VIII-7. The most significant decrease occurred in the number of 20-year enlisted retirees, even though the age at retirement has changed little. As can be seen, a significant part of both the retirement-eligible officer and enlisted populations have retired by the 25th YOS (age 50 for officers and age 45 for enlisted members). Figures G-13 through G-46, Appendix G, show the overall trends for DoD and the Services from FY73 through FY82.

Table VIII-6
Percent of Retirees by FY
Who Retired With Selected YOS or Less
(DoD Average)

YEARS OF SERVICE	20 YOS				21 YOS OR LESS				25 YOS OR LESS			
	FY73	76	79	82	FY73	76	79	82	FY73	76	79	82
OFFICERS	29.9	26.5	25.1	26.4	37.5	36.5	38.5	39.2	57.3	61.4	66.8	67.0
WARRANTS	34.5	34.3	23.4	25.1	46.6	47.3	36.6	36.0	70.6	73.8	72.6	68.0
ENLISTED	56.5	52.4	35.5	37.4	68.7	65.8	50.0	55.4	85.4	88.1	83.6	83.2

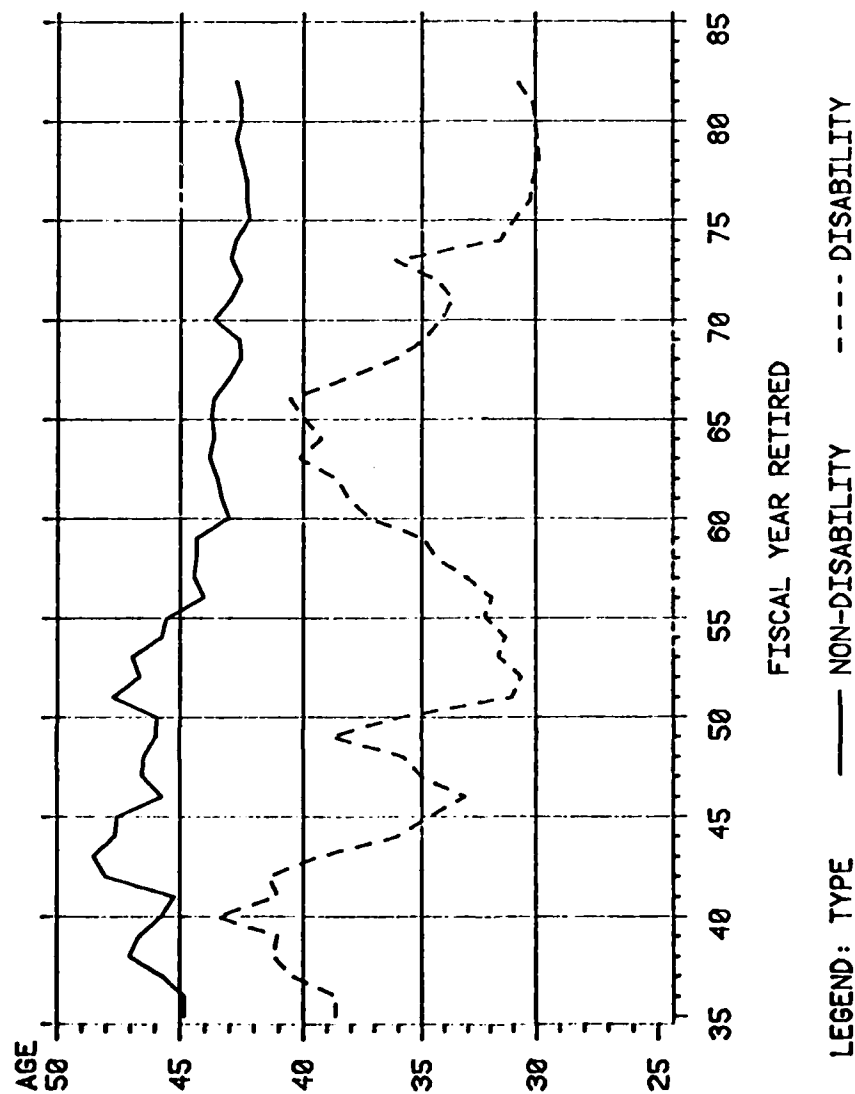
Table VIII-7
Percent of Retirees by FY
Who Retire at Selected Age or Under
(DoD Average)

AGE	UNDER 40				UNDER 45				UNDER 50			
	FY73	76	79	82	FY73	76	79	82	FY73	76	79	82
OFFICERS	13.7	9.1	11.2	8.5	48.0	50.4	54.0	55.0	71.2	75.9	84.9	83.7
WARRANTS	32.5	41.4	38.7	33.1	70.2	72.9	76.4	73.9	85.1	92.6	95.8	93.1
ENLISTED	45.5	54.2	46.8	46.9	82.3	85.1	84.1	85.1	93.3	96.8	97.3	96.9

The average age at retirement of the non-disabled and disabled active force retirees is associated with the preceding trend data. Figure VIII-35 shows that the 50-year trend has been stable, around age 42.5 for non-disabled retirees, for about the last 20 years. The disabled age has decreased steadily over the last 15 years in consonance with the DoD tightening of disability criteria. Even though the average age at retirement has been stable, the average age of the total retiree population has been increasing. However, it is projected to stabilize at between ages 67 and 68 for all non-disabled officer retirees by the early 21st century, and age 61 for all non-disabled enlisted retirees. Figures G-47 through G-53, Appendix G, are age histographic portrayals of the maturing Service retiree population between fiscal years 1949 and 2081.

Figure VIII-35

AVERAGE AGE AT RETIREMENT FOR DOD ACTIVE DUTY RETIREES



The average percentage of each fiscal year's new, active force non-disabled retirees is shown in Figures VIII-36 and 37. These data are consistent with the earlier trend data.

Figure VIII-36
ANNUAL RETIREMENTS BY YEARS OF
ACTIVE COMMISSIONED SERVICE
(AVERAGE FY77 THROUGH FY82)

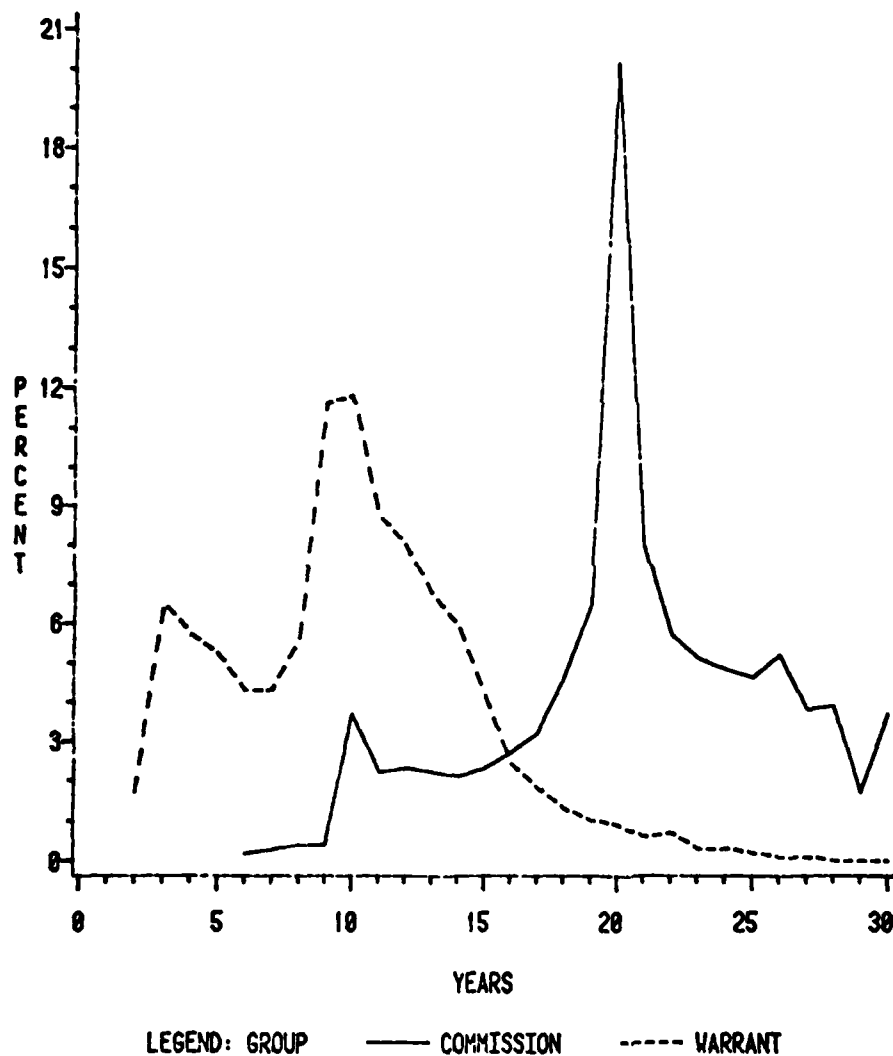
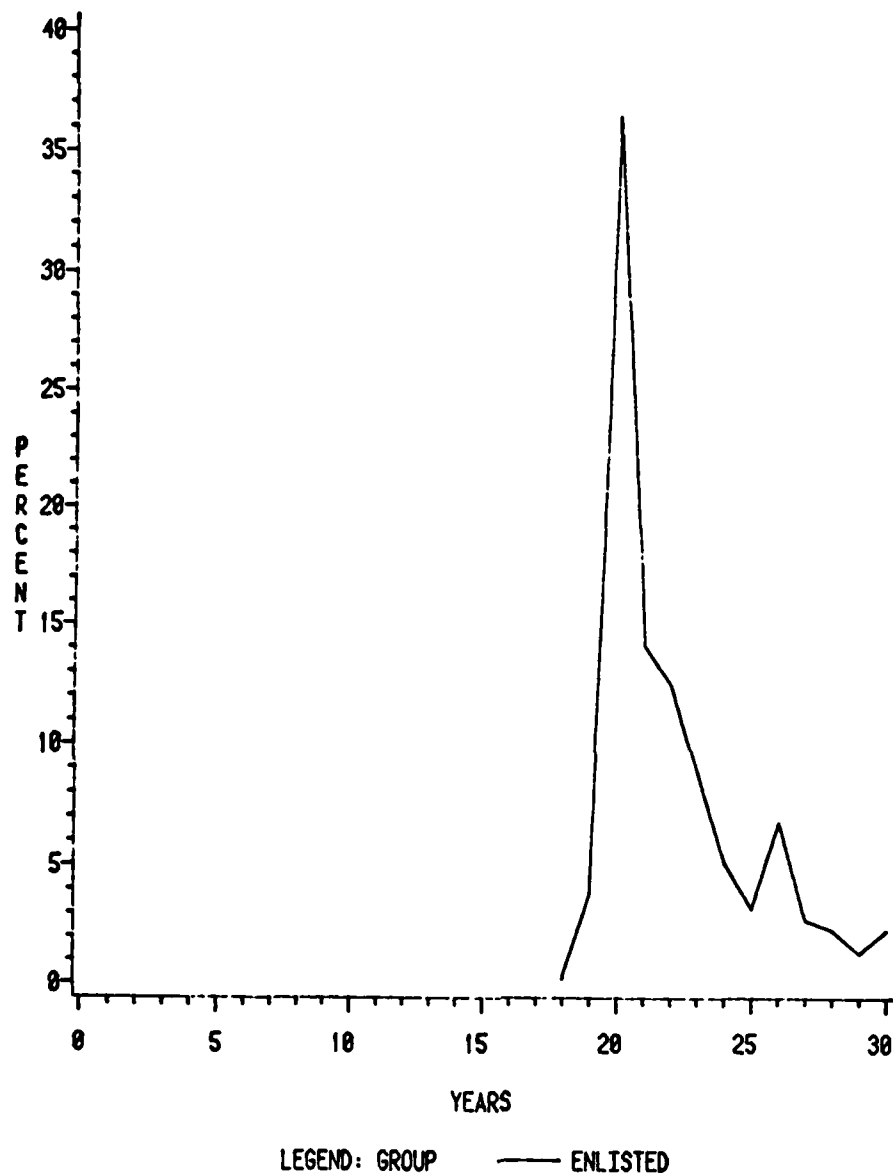


Figure VIII-37
ANNUAL RETIREMENTS BY YEARS OF
ACTIVE FEDERAL SERVICE
(AVERAGE FY77 THROUGH FY82)



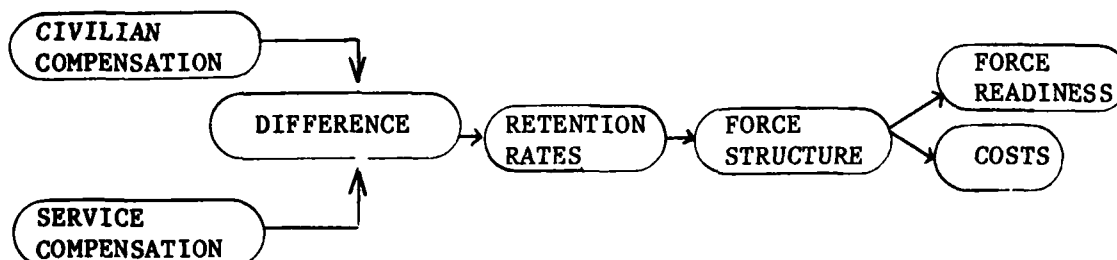
F. SUMMARY. The preceeding review of the historical and current purpose of the Uniformed Services retirement system, along with an assessment of the performance of that system over the last thirty years, reveals that it has strongly supported its intended purpose. Rising costs, which are of continuing concern, were shown to be primarily the result of inflation, wage growth and a steep rise in the retiree population. Assuming a constant total force size, the rate of growth should significantly decrease. However, an inflation rate of 5 percent will keep retiree costs rising in consonance with all other costs within the economy, even though the real costs of growth will have been reduced. It is clearly evident that the retirement system is a powerful incentive for a servicemember to continue as a careerist. The strength of this pull seems to play a predominant role from somewhere between the 8th and 12th YOS depending upon whether the servicemembers are officer or enlisted and the skills or specialties in which they are serving. This is evident in both the active and Reserve Component forces, except possibly for the enlisted reservist whose survival rate to retirement is only 20% of that of active duty enlisted member. This is most predominant in the Army Reserve as seen in Table VIII-4. Overall, the reserve retiree population is still maturing. Although its cost is only about 10 percent of the total retirement costs, it requires a careful analysis in conjunction with any future redistribution of Total Force strengths. This is true not only for its potential cost, but from the viewpoint of the overall balance of flow of people into the active and Reserve Component forces to satisfy the total manpower requirements.

Despite a great deal of evidence suggesting that the retirement system is a powerful incentive in support of our national security objectives, meaningful and conclusive analysis of the relative efficiency of the system could not be undertaken using past longitudinal population data and associated costs. To accomplish this requires a prospective analysis where a definitive statement of manpower requirements has been formulated by the Services. These requirements, together with observed servicemember behavior and known conditions of service and compensation, can be coupled with hypothetical changes in the compensation system to determine if the required manpower and mission readiness can be obtained at less expense.

IX. ANALYTICAL BACKGROUND. To fulfill the President's charter to review the current retirement system in relation to national security objectives, it was imperative to view the Service manpower force structure as a total system. As indicated in Section III, our paramount concern was to measure the degree to which a change in the retirement system (or compensation) would affect the force structure and, given that, what the concomitant relationship to force readiness was. This meant evaluating all aspects of the force structure (strength, gains, losses, experience distribution, etc.,) and all costs (gain-related costs, maintenance costs, and loss-related costs to include retirement costs). In order to accomplish this task, large amounts of data and an extensive network of computer models were required. Before describing them, however, it is useful to review the basic analytical approach.

A. APPROACH. The Service manpower force structure may be described by the total manpower level or strength and how that strength is distributed -- by grade, skill, YOS, and community (officer, enlisted, warrant). For the purposes of this study, the strength level was held constant at the FY82 levels as were the grade, skill, and community distributions. The only element which varied was the year-of-service profile, or shape, of the force structure. This shape is determined by the retention rates of the personnel within the system. Retention rates, in turn, were related to the difference in compensation available by staying in the Service compared to leaving the Service for the civilian sector. This is shown schematically in Figure IX-1.

Figure IX-1
System Overview



While retention is a function of many factors other than just differences in compensation, and few individuals make such a finite comparison of total earnings, several previous studies have shown that the historic relationship between retention and expected compensation is sufficiently strong and consistent that it can provide a valid basis for these predictions.

There are two major ways of examining how the changes in compensation policy would impact the active duty force structure -- the dynamic viewpoint and the static (steady-state) viewpoint. From a dynamic view-

point, an analyst begins with the existing force structure, implements certain changes, and evaluates the impact in the future. While this approach tends to be more accurate in a "real world" sense and in terms of the actual short-term budgetary impacts, it also has certain limitations. Because of the inertia of the Service manpower system, caused in part by its being a closed system, it may take 30 or more years of projection before the full impacts are apparent. In fact, in the case of changes to the retirement system, it may take an even longer projection before the final impacts are known. This approach can be time-consuming and inundate the analysts with large amounts of data that confuse, rather than clarify of the long-term impact of the issue.

Typically, in cases where large, long-term changes to the military manpower system are being studied, the approach uses both viewpoints. The static, or steady-state, approach is used first to narrow the proposed options down to those that appear to be both feasible and practical. While it may take many years to actually reach the steady state, the decisionmaker should choose the alternative that appears to reach the most acceptable eventual outcome. Once the list of feasible alternatives has been narrowed, dynamic projections can be made to determine if there are any significant issues or appreciable differences in transitioning to each alternative still under study. These differences can then be evaluated, along with the steady-state differences, in reaching the final decision. The static approach also permits a large number of projections to be made rapidly to evaluate the sensitivities to various parameters. As a result, a better understanding of the overall system response to changes can be obtained.

In evaluating alternative retirement systems, Service compensation can be changed while holding civilian compensation constant. However, it is first necessary to establish a reference point, or benchmark, in order to calibrate the system at the current compensation and retention levels. First, data was collected with respect to current Service and civilian earnings expectations. To match this, the Services were asked to provide retention rates that reflected behavior under the current compensation system. Because retention rates typically vary according to the health of the economy, it was suggested that the Services use 5-10 year average rates. In addition to these rates, called the "Current Objective Case," seven-year average rates were obtained from the Defense Manpower Data Center (DMDC). These seven-year retention rates became the benchmark, or reference point, for the ACOL model. The reasons for the use of this particular model are discussed in detail in Section IX.B.3.

In addition to these data, two other benchmark data sets were collected. The first was a set of retention rates that would result in an "ideal" or "optimum" steady-state force structure that maximized the contribution to national defense independent of the compensation system. This set of data was labeled the "Baseline Case." The second set of data was simply the actual force structure inventory at the end of FY82. This provides a benchmark to evaluate how the current inventory differs from

either of the two steady-state cases as well as providing the starting point for any dynamic simulations done for analysis of transitioning to a new system.

Most of the theory and analytical techniques used during the course of the study was available at the outset. However, it existed in bits and pieces or was tailored to a specific Service or population. During the study every effort was made to extend the theory and produce an analytical tool that could be used for all populations at any level of detail and, potentially, available to answer questions beyond those currently under study. While much remains to be done, significant advances in analytical capability were made. For example, the static model can now simulate the enlisted and warrant officer populations as well as the officer community. Prior-service accessions can also be simulated.

B. BENCHMARK DATA.

1. Service and Civilian Earnings. Service and civilian earnings streams were developed for use in evaluating the compensation/retention relationship. The Service earnings stream was developed by using promotion opportunities derived from the data furnished by the Services' strengths by grade and year of service. These opportunities were applied to compensation tables by grade and year of service to obtain an average earnings level for each year of service. Compensation was defined to include basic pay, basic allowance for quarters (with and without dependents), basic allowance for subsistence, variable housing allowance, Special and Incentive pays, and the tax advantage associated with the allowances. The Special and Incentive pays were obtained from Service-provided compensation data tapes for calendar year 1982 and represent the annual dollar amount received by members in each grade and year of service. See Table I-3, Appendix I for a detailed listing of the Special and Incentive pays.

The alternative civilian wage by age was obtained from the 1980 Census, Public-Use Microdata Sample (PUMS), for the first 17 available states. The states were Arizona, Arkansas, California, Colorado, Florida, Illinois, Kansas, Louisiana, Maine, Michigan, Minnesota, Mississippi, Montana, Nebraska, New York, Pennsylvania, and Texas. The alternative civilian wage was defined for veterans who had full-time earnings and who were between the ages of 17 and 65. Full-time earnings means that the individual had worked at least 35 hours per week for at least 48 weeks in calendar year 1979. The resulting civilian veterans' earnings were multiplied by the Employee Compensation Index value of 1.279 to establish 1982 comparative dollars. The officer alternative veteran civilian earnings stream was controlled to represent white male college graduates in officer-type occupations. The enlisted veterans' civilian earnings stream was controlled to represent white males working in enlisted-related jobs. These alternative-wage-stream equations, developed for each of the officer and enlisted occupational structures evaluated are provided in Appendix I. The enlisted were developed from Census data for use in the Annualized

Cost of Leaving (ACOL) model because previous wage equations used in the model were developed from Current Population Survey data and did not distinguish between earnings streams for different occupational groups.

2. Force Structures. Any analysis of Service compensation is dependent upon the identification and understanding of the desired Service personnel requirement derived within reasonable and practical constraints. As discussed earlier, the Services provided three sets of data, baseline (steady-state), current objective (steady-state), and FY82 (actual), (to provide benchmarks for the examination of the retirement system).

The Services were asked to specify how they would like to separate/continue people over a full career period. This was done in a steady-state mode for a Service manpower level fixed at the FY82 ceilings and configured internally by the Services on the basis of the previously established FY82 career field and skill level requirements. The grade structure for all cases of this analysis was fixed at that specified by current law and internal DoD/Service policies for both officers (i.e., DOPMA) and enlisted (i.e., specified "Top 6"). Fiscal year 1982 was chosen as the benchmark year simply because it was the most recent year for which actual data existed and there was perfect knowledge about what the mission required in the way of manpower to accomplish.

The Services also provided baseline data defining how they would manage their steady-state losses/continuation independent or unconstrained by any compensation considerations. It was realized that the latter aspect is possibly an unrealistic assumption but necessary to more precisely define the blend between the "young and vigorous" force needed for today's missions and personnel readiness and the experience needed to provide the senior leadership required to execute the mission in both peace and war. It defines desired tenure for individuals of each specialty and grade based upon:

- Minimizing the required annual accessions;
- Maximizing the return on the training and experience investment; and
- Providing a realistic promotion flow to produce quality leadership throughout the officer and enlisted force structures.

The baseline requirement data are used as a benchmarks to compare how the past and current personnel inventories approximate the requirement. Further, it helps identify what changes in the retirement system (or any other part of compensation) would be necessary to design a Service compensation program that allows the Services to manage a personnel force in which everyone wants to stay for a full career. Realistically, we may not be able to afford such a program; however, by defining our specific personnel force structure requirement, an afford-

able compensation program that moves in this direction can be developed and justified. Further, it addresses the special needs of each career field/skill level and grade to attain realistic retention levels.

The success of maintaining the Service-specified required force structure is partially dependent upon service compensation policies, especially as they apply to the respective Service occupational categories. A detailed view of the Service-specified objective and baseline force structures is needed in order to evaluate whether existing compensation policies are attracting and retaining sufficient quality people with the right training and experience necessary to perform the mission.

Strength data by year-of-service (YOS) provided in the objective force occupational category profiles submitted by the Services is used to determine the cost of the objective force. This then becomes the point of reference for determining if and how compensation policy changes will assist in achieving the Services' desired occupational baseline force structure. The differences between the objective and baseline force structure, by occupational category, provide a basis for evaluating where specific targeted compensation programs are needed by occupational category.

a. General. Three sets of data were collected for each occupational category within the force structure. The aggregate strength by grade, across occupational categories, should equal the FY82 strength levels.

(1) End FY82: This is simply the actual force configuration, by grade and year-of-service (YOS), for each occupational category, on 30 September 1982.

(2) Current Objective (Steady-State): This is a steady-state current force configuration for each occupational category, sized to the FY82 authorization levels, that reflects management responses to current grade and other legal constraints (i.e., DOPMA) in the aggregate force structure. The current objective steady-state force profile also reflects limitations imposed on retention by the current compensation system (i.e., average retention over the last five to ten years might be used). In short, it represents the best estimate of a steady-state force profile that the Services could achieve under current conditions and limitations.

(3) Baseline (Steady-State): Conceptually, this steady-state force has been designed from the standpoint of desired continuation and force management unconstrained by considerations of cost, or limitations imposed by the current compensation/retirement system, external economic conditions, or historical retention levels. The baseline force maximizes continuation to the extent possible or desired by each Service consistent with its mission goals. Full consideration is given to youth and vigor, but does not ignore maximizing the return on training and experience investment.

b. Scope. The population is restricted to active duty only. The steady-state forces are configured to result in a total officer and enlisted strength equal to that authorized in the FY82 column of the FY83 President's Budget (Army: 784,400; Navy: 553,000; Marines: 192,100; Air Force: 580,800). Each officer category has been defined by the respective Service. The first digit of the DoD occupational code is used to define the enlisted categories (DOD 1312.1-M, the Occupational Conversion Manual, Dec 1982). Table IX-1 shows the occupational categories.

Table IX-1
Force Structure Strengths (Current Objective Case)

	ARMY	NAVY	USMC	USAF	CGD	PHS	NOAA
STRENGTH:	780,511	545,164	191,661	576,109	37,480	7,762	399
ENLISTED:	677,360	479,660	173,068	474,644	31,070	NA	NA
Infantry, Seamanship(OXX)	171,189	29,934	41,427	33,309			
Electronic Repair (1XX)	37,779	78,041	11,816	63,028			
Comm & Intell (2XX)	83,139	56,799	13,167	35,767			
Medical & Dental (3XX)	40,521	27,705	-	21,697			
Other Technical (4XX)	17,835	6,072	3,870	17,734			
Support & Admin (5XX)	119,410	67,135	26,391	108,262			
Elect/Mech Repair (6XX)	108,758	155,031	31,668	119,494			
Craftsmen (7XX)	17,191	28,324	5,374	28,112			
Service & Supply (8XX)	81,504	30,622	24,375	47,243			
Non-Occupational (9XX)	-	-	14,981	-			
WARRANT:	14,279	3,249	1,290		1,440	NA	NA
Pilot	5,596	-	-		-		
Other	8,323	3,249	1,290		1,440		
OFFICER:	88,872	62,255	17,305	101,465	4,970	7,762	399
Judge Advocate	1,799	988	428	1,227			
Chaplain	1,450	1,038	-	852			
Physician	4,982	3,460	-	3,678		2,836	
Dentist	1,812	1,660	-	1,585		1,075	
Nurse	3,892	2,732	-	4,448		734	
Veterinarian	395	-	-				
MSC	4,961	2,064	-	1,114			
BSC	463	-	-	2,236			
Pilot	6,625	10,555	4,509	27,798			
Navigator	-	4,918	445	12,218			
Surface	-	12,369	-	-			
Submarine	-	5,792	-	-			
URL-General	-	3,202	-	-			
Combat Arms	31,289	-	5,729	-			
Combat Support	14,424	-	5,090	-			
Scientist/Engineer	-	-	-	15,687			
Restr. Line/Staff Corps	-	10,091	-	-			
Other	16,781	-	-	30,624		3,117	
Limited Duty Officer	-	3,386	1,102	-			

c. Exclusions. Several exclusions were necessary to focus on the population that, in general, is subject to the same management rules. Populations specifically excluded are flag/general officers, personnel funded by the Reserve Components appropriations (including TAR personnel in the Navy), cadets/midshipmen, enlisted members in any pre-commissioning program that are included in the active duty strength (e.g., AECF, OTS/OCS, CSEP, prep school, etc.), permanent professors, and recalled retirees.

d. Constraints/Assumptions.

(1) Officer Population: Officer populations were constrained to the legal grade ceilings, O-4 through O-6; enlisted personnel were constrained to the OSD administrative ceilings for the top six grades as well as the legal limits on E-8/E-9 (3% total, 1% E-9), as shown below.

ENLISTED TOP-SIX ADMINISTRATIVE GRADE CEILINGS

ARMY	67.1%
NAVY	67.6%
MARINE CORPS	47.7%
AIR FORCE	65.2%

(2) Maximum Service: Maximum possible service was set at 35 years (commissioned for officers and total for enlisted). Other maximum service points, either age or service, specified in law continue to apply (e.g., 24 years for O-4's).

(3) Closed System: Constraints imposed by the current closed personnel system continue to apply. That is, while it may be desirable not to have E-1's or O-1's, such a system is infeasible.

(4) Enlisted Population: The lower enlisted grades (E-1 through E-3) were aggregated.

e. Design Considerations. In designing the two steady-state forces, several considerations were necessary:

(1) Steady-State: Each occupational category in the force is a steady-state system, capable of maintaining equilibrium (i.e., gains equal losses and strength in each grade and YOS remains the same from year to year).

(2) Maximization of Contribution: The force configuration was designed by the Services by first evaluating individual billet positions (bottom-up approach) and then modifying the aggregate of all billets with overall force management considerations (top-down approach). This produced a system which maximizes each Service's contribution to national defense within the specified constraints. In essence, if 35 years ago the Services had started building the optimum force profile, what would the force profile have been in FY82, assuming that they had

perfect knowledge as to the actual FY82 requirements and external considerations, i.e., compensation had been fully complimentary?

(3) Occupational Configurations: The steps in (a) to (d) below were used by the Services in constructing their steady-state force configurations for each occupational category in Table IX-1. (While these procedures are worded from the standpoint of the baseline force, they are also applicable for the current objective force.)

(a) In designing the baseline force, a significant departure from historical retention patterns was required. It was assumed that everyone entering the force is willing to serve a tour of service the length of which could extend to 35 years, but could be terminated at a time convenient to the Service.

(b) The Services accounted for losses that are outside the influence of the compensation system (essentially beyond the Service's control or in the best interests of the Service), such as:

1. Deaths.
2. Disability losses (separation and retirement).
3. Involuntary attrition (such as losses due to various adverse reasons or failure to meet standards, etc.). This does not include force control losses such as those for promotion failure or high year of tenure, etc.
4. Voluntary attrition, as defined with respect to the baseline force. This means those losses which are beyond the influence of the compensation system and are permitted in the best interest of the Service, (such as hardship or humanitarian discharges). It does not include current levels of voluntary attrition simply for the convenience of the member.

(c) Accounting for the above losses defines the force configuration that represents the maximum achievable from a behavioral standpoint.

(d) The Services described those additional losses that are desirable from a force control viewpoint. Some of the considerations incorporated in this step are:

1. Youth versus experience.
2. Stagnation versus turnover.
3. Maintenance of an attractive career progression plan.

training base.

4. Maintenance of an adequate mobilization/

5. Physical/mental limitations (aging).

6. Flexibility to adapt to changing requirements.

7. Maintenance of an adequate influx of "fresh blood" (i.e., enthusiasm, new talent, and latest in technology from the universities, high schools, and private sector).

8. Minimizing the proportion of the force in training or not fully qualified in a particular skill.

9. Job knowledge and technical skill requirements.

10. Levels of communications skills.

11. Levels of job content and responsibility.

12. Organizational hierarchical aspects.

13. Quality personnel.

14. Combat versus non-combat requirements.

3. Seven-Year Average Rates. Several elements of data from which to make predictions concerning personnel retention behavior patterns are required by the Annualized Cost of Leaving (ACOL) model. As noted in Table IX-1, each Service provided detailed force structures for officers and enlisted personnel in the aggregate and by occupational group. The force strengths by grade and year of service for both the current objective and the baseline force structures reflect personnel management policies for those who stay and the loss reasons for members who leave. In the ACOL model, the strengths by grade and year of service are used to reflect the opportunity to receive pay in that grade and year of service. In addition, the loss reasons provided with the Service force structures were grouped into three categories related to compensation policy. These are: deaths, for purposes of the death gratuity; retirement, reflecting pre-20 disability for enlisted and prior service time for officers, as well as post-20 non-disability retirement losses; and other voluntary and involuntary attritions. Since the continuation rate data provided with the Service baseline and current objective force structures are too aggregate to satisfy the needs of the ACOL model, separate seven-year average retention rates covering FY76-FY82 were developed by the Defense Manpower Data Center (DMDC) for use by the 5th QPMC.

Because the boundaries on some occupational groups provided by the Services are not identifiable in the DMDC data base, those occupational groups shown in Table IX-2 were developed for analysis in the ACOL model. Figures I-2 through I-9, Appendix I display the seven-year average force structures along with the Service-provided current objective and baseline force structures. These figures indicate the seven-year average force structures generally represent a nominally smaller career force than exhibited in the Service current objective and baseline force structures.

In developing the seven-year average force structures, the officer and enlisted continuation rates were observed for two separate subpopulations.

a. Officers. Officer personnel continuation rates were reported by Total Active Federal Commissioned Service Date (TAFCSO) and separated into:

(1) retention rates for due-course officers with no prior service, and

(2) retention rates for prior service officers.

b. Enlisted Members. Enlisted continuation rates were reported by Total Active Federal Military Service Date (TAFMSD) and separated into:

(1) reenlistment rates for those personnel within 12 months of end-of-term-of-service, and

(2) retention rates for those personnel with a term of service exceeding 12 months.

The officer ACOL model was designed to predict retention rates for due-course officers with no prior service. By using predicted retention rates and information on retention rates for officers with prior service along with the percent of non-prior service officer personnel at each year of service, the overall officer continuation rates by year of service were obtained. Use of the non-prior service officer retention rates was required to isolate the influence of prior service personnel who attain retirement eligibility prior to completing 20 years of active commissioned service. As the income streams in the ACOL model imply a due-course officer, the ACOL values were used to predict non-prior service retention.

The enlisted ACOL model was designed to predict reenlistment rates for personnel at end-of-term-of-service (ETS). By using predicted reenlistment rates and information on the retention rates for personnel not at ETS along with the percent of enlisted personnel who are at ETS for each year of service in the enlisted model, the overall continuation rates by year of service were obtained. A detailed description of the seven-year average retention rates used in the officer and enlisted model structures is contained in Appendix I.

Table IX-2
Officer and Enlisted Occupational Groups by Service

OFFICER	CURRENT OBJECTIVE END STRENGTHS			
	ARMY	NAVY	USMC	USAF
Legal	1,799	988	428	1,227
Chaplain	1,450	1,038		852
Physician	4,982	3,460		3,678
Dentist	1,812	1,660		1,585
Nurse	3,892	2,732		4,448
Veterinarian	395			
Medical Service Corps	4,961	2,064		1,114
Bio-Medical Service Corps	464			2,236
Pilot	6,625	10,555	4,509	27,798
Navigator/NFO		4,918	445	12,218
Combat Arms & Naval Operations*	31,289	18,161	5,729	
Combat Support**	14,424		5,090	30,624
Scientist & Engineer				15,687
All Other***	16,781	16,679	1,102	
Aggregate	88,872	62,255	17,305	101,465

ENLISTED****

Infantry, Gunner, Seaman	162,439	17,863	43,178	22,464
Electronic Equip Repair	30,819	61,912	8,388	65,284
Communications & Intel	61,588	40,306	12,246	33,235
Medical & Dental	34,738	26,280		20,223
Other Technical Specialist	13,385	5,378	2,993	16,026
Support & Administration	110,079	46,025	24,608	101,346
Electric/Mechanical Equip Repair	95,379	124,725	26,831	109,573
Craftsman	16,851	27,233	4,581	26,401
Service & Supply	72,796	25,497	21,801	49,562
Non-Occupational Students	79,288	104,444	28,413	30,532
Aggregate	677,360	479,660	173,068	474,644

* For Navy, this group combines the Surface and Submarine categories shown in Table IX-1.

** For USAF, this group represents the Other category in Table IX-1.

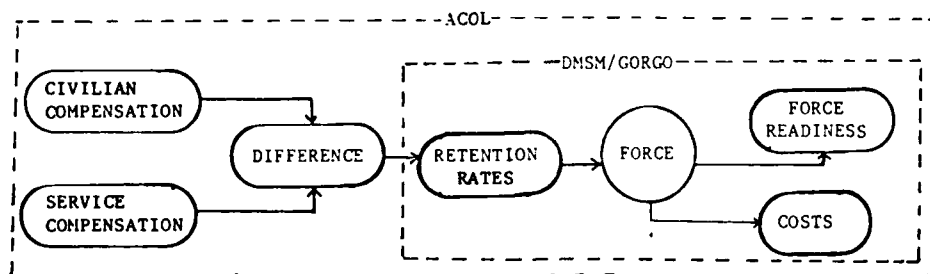
*** For Navy, this group combines the General URL, LDO and Restricted Line categories shown in Table IX-1. For USMC, this group represents the LDO category in Table IX-1.

**** Strength distribution by occupational group based on the average for the last seven years, i.e., FY76-FY82 in order to maintain identity of the non-occupational student category not provided by all Services in Table IX-1.

C. COMPUTER SUPPORT SYSTEM. To evaluate the many different retirement alternatives, an extensive network of computer models and support programs was constructed. Host computer services (an IBM 4341) were provided under contract by the MITRE Washington Computer Center (MWCC). Versions of existing models were obtained from the Office of the Secretary of Defense, the Center for Naval Analysis, and the Defense Manpower Data Center. These initial versions were then modified extensively by the QRM staff or under contract. Numerous support programs were also developed by the QRM staff. Computer languages used were FORTRAN, APL and SAS, as well as the IBM system software resident on the MWCC host computer (Virtual Machine/System Product - Conversational Monitor System).

1. Overview. Three large computer simulation models were used. Figure IX-2 shows the relative scope of each model.

Figure IX-2
Model Scope



The Defense Manpower Static Model (DMSM) is a static manpower model that is relatively detailed compared to the other models. It begins with the retention rates and then builds the force structure that satisfies these rates, as well as an overall strength number. While it can only examine one option at a time, it is fast and inexpensive to operate. It is used to closely examine the benchmark cases, to assess a specific option from ACOL, and to fine tune the costs. A separate interface program is used to convert the retention rates of ACOL to a form compatible with DMSM.

The Annualized Cost of Leaving model (ACOL) concentrates on the relationship between compensation expectations and the corresponding retention rates. In addition to the base case, it has the capacity to look at seven alternative compensation plans simultaneously. While it does contain some grade distribution information, the primary mathematical operations take place only on the year-of-service dimension. It contains separate loss rates for death, retirement and other losses for a particular year-of-service cell. It contains a costing routine which, while not as accurate as the costs contained in the other models, is sufficiently accurate to quantify the relative cost differences between alternative compensation plans. The major features of the ACOL model

are: (1) it can predict the retention change associated with a compensation system change; (2) it can perform sensitivity analyses on compensation system changes rapidly since it can estimate several options and evaluate them in terms of relative force structure and cost; and (3) it provides a dynamic projection capability useful in evaluating transition differences of the various compensation options being studied.

The final model in use is the Military Retirement System Projection and Actuarial Valuation Program (GORGO) developed by the DoD Actuary. While it can perform most of the same functions as DMSM, it primarily concentrates on the retired population and retirement costs, as opposed to the active duty population. It also has the capacity to make dynamic, or transitional, projections as well as long range steady-state projections. It is much more detailed concerning all categories (non-disability versus disability, active versus reserve, officers versus enlisted), various retirement system costs and valuation projections, and Survivor Benefit Plan populations and costs. Input for GORGO is taken from ACOL via another interface program developed by the QPMC staff.

The interface programs referenced above are a series of FORTRAN programs that manipulate data between the three main models. They audit the input data sets to ensure all data is consistent. The data output from ACOL is reformatted into a structure readable by DMSM. The ACOL output is also used to create force grade and decrement tables to be passed to GORGO.

These models/programs will be described in more detail below. However, for a technical description and documentation, see Appendices H, I and J.

2. Defense Manpower Static Model (DMSM).

a. Overview. The Defense Manpower Static Model (DMSM) is a general purpose model capable of quantifying the changes in force structure and annual costs caused by a change in retention rates or other flow rates. It is a descendant of the Defense Officer Personnel Management System (DOPMS) model and bears certain similarities to that model. However, it also reflects a number of changes. It is primarily designed to handle macro-level questions, e.g., all DoD, or all enlisted. The following is a general description of the model; technical details are found in Appendix H.

b. Force Structure Matrix. The basic building block of DMSM is a grade by year of service matrix wherein each cell reflects the number of people with that particular combination of grade and year of service. The sum of these cell strengths for all grades and years of service is the total strength for that force structure. The grade by year of service matrix then defines how that total strength is distributed, or the "shape" of the overall force structure. This "shape" roughly defines the overall retention in the system. Throughout the study, total strength has been held constant while the "shape," as dictated by changing retention rates, has varied.

c. Steady-State Conditions. When a particular force structure is in steady-state, the strength (both overall as well as in each grade-by-year-of-service cell) is constant over time. In addition, for a given time unit, e.g., a year, the total gains to the system (as well as each cell) equal the total losses out of the system (or each cell). If annual rates are being used and one of the dimensions of the system is year of service, then each cell strength is also equal to the sum of all annual gains (or losses) to that particular cell. It can be shown (see Appendix H) that if the behavior in the system is known (all of the individual cell loss rates and transfer rates between cells are known), that a quantity called "Expected Service Life" can be calculated for the gains at any point in the force structure. Expected Service Life is the average number of years that a gain, or accession, will remain in service. If the total strength desired is also known, as well as at what points people enter the force structure, then the necessary accession levels can be determined that will satisfy the overall strength requirement. Once this is known, all of the flows can be quantified and various output statistics (including cost) can be calculated.

d. Dimensions. The force structure is broken down into individual cells that are defined according to several dimensions:

(1) Source of Entry: Although not used during the study, people can enter the Service from any one of up to 10 procurement programs, each of which is further described by certain parameters.

(2) Grade: Individuals can exist in any one of up to 10 grades. Depending on which community is being simulated, these correspond to E-1 through E-9, W-1 through W-4, and O-1 through O-10. (Note: during the study, grades E-1 through E-3 were treated as a single grade, "E-3 and below").

(3) Year of Service: People can exist in any one of up to 35 year-of-service cells (in this model, year x is interpreted to mean the x th year of service, i.e., $x-1$ years have been completed but not x).

(4) Category: Personnel can exist in any one of up to 15 categories which are treated as entirely separate force structures. This dimension is user definable. As an example, in one instance the user may wish to have it reflect an occupational group of Army enlisted personnel; in another, each category could be a Service or could represent a community (officer, warrant, or enlisted). In the extreme, this dimension could also be used to simulate augmentation from reserve to regular status.

(5) Communities: For the purpose of the study, three separate communities of personnel -- officer, warrant officer, and enlisted -- have been defined. Generally, the model will only analyze one community at a time. Since the model cannot distinguish between communities it is simulating at a particular moment, the user must track the community and insure that the correct cost files are used.

e. Processes. Several personnel processes are simulated during operation of the model:

(1) Accession (Procurement): This process means entering active duty from outside the force. Numbers of annual entrants are extracted from the input data file and can be specified for any grade, year of service, or category. The model treats all accessions in years of service other than the first year of service as fixed and will not adjust them. However, it will adjust the gains in the first year of service as necessary to achieve the desired strength level for the category. If adjustments are necessary and first-year accessions are shown as entering in more than one grade, the model will distribute the new level of accessions in the same proportion as contained on the input data file. The feature of permitting accessions in other than the first year of service allows the simulation of prior-service procurement programs, such as recall or Reserve Component procurement. Allowing accessions in grades other than the lowest permits the simulation of constructive credit accession programs such as those for lawyers, physicians and dentists.

(2) Lateral Transfer: This process, although imprecise, permits the transfer between the categories specified in a particular use of the model. Since it is dependent on the categorization being used, interpreting the flows is similarly dependent:

Categorization

Skill Groups

Service

Community

Component

Lateral Transfer

Cross Training

Interservice Transfer

Upward Mobility

(e.g., commissioning)

Augmentation, Integration

Lateral transfer into a category is specified as a number. Lateral transfer out of a category is specified as a rate. Transfers into a particular category are not identified as to the category or categories from which they came. Neither does the model check to ensure all the transfers-out equal all the transfers-in. Various output displays are provided to assist the user in adjusting the input data file. To be correct, the total transfers-out of one year of service should equal the total transfers into the next year of service. This feature of the model can also be used to simulate the entrants into a skill which has no entrants in the first year of service (for instance, a skill such as first sergeant or recruiter).

(3) Promotions: This process simulates the promotion of individuals from one grade to the next higher grade. Demotions are not specifically modeled; neither are promotions of more than one grade. Largely for this latter reason, all enlisted projections grouped the three lowest enlisted grades (E-1, E-2 and E-3) into grade E-3. Because of the differences between enlisted and officer promotions and because time in grade was not a dimension, promotions are specified only by rates

for each cell (grade and year of service and category combination). As a result, promotion opportunity, phase points, or passovers are not specifically identified. Also, only net promotions are simulated; selections are not. The model does not have the capability to adjust itself to reach a set of desired grade strengths.

(4) Losses/Retention: This process simulates the various kinds of losses from active duty:

- (a) Death;
- (b) Separation - Disability;
- (c) Separation - Force Control;
- (d) Separation - Involuntary;
- (e) Separation - Voluntary;
- (f) Retirement - Disability;
- (g) Retirement - Force Control;
- (h) Retirement - Voluntary;
- (i) Retirement - Involuntary; and
- (j) Retirement - Voluntary.

In addition to these loss programs, the aforementioned rates for lateral transfer-out are provided, as are rates to reflect transfer to officer status. This type of loss can be interpreted to mean anything the user desires; it is treated simply as another kind of loss.

As used in the model, "involuntary" losses are designed to reflect losses for disciplinary, adverse, reasons and therefore may, in fact, be voluntary -- in short, the Service wants to lose them. "Force-control" losses, on the other hand, are not meant to be disciplinary. Instead, they are to reflect the operation of law or policy to remove personnel at specific points, such as those set by high-year or tenure policies, mandatory retirement points, passover policy (i.e., the individuals have been found to be not "fully" or "best qualified" to remain in Service). Both of these losses occur for quality control reasons, but there can be differences in terms of cost, or historical rates. In general, the adverse losses are expected to obey certain historically consistent patterns, while the force-control losses may not. Furthermore, force-control losses may be entitled to extra compensation upon their departure.

f. Input. As described above, the input to the model consists of annual rates, between 1 and 0, that describe how the people in a particular grade and YOS cell will behave over the following year (or what will happen to them). Some will leave the system entirely. Those who remain will progress to the next YOS cell. Of those who remain, some will be promoted and some will remain in grade. In addition to these rates, the total strength for the force structure is provided as well as some information about where accessions will enter the force structure and in what proportions.

g. Output. The output of the model consists of several matrices showing the numbers of people (not rates) for the following:

- (1) Strength by grade and YOS;
- (2) Gains to each grade and YOS cell by type of gain;
- (3) Losses out of each grade and YOS cell by reason for loss (death, disability, retirement, forced separation, et cetera); and
- (4) Promotions out of and into each grade and YOS cell.

Using these matrices, various summary output statistics can then be calculated: average years of service, turnover rates (overall and by grade), expected service length (overall and by grade), grade distribution, average time in service at promotion, et cetera. Using the appropriate entitlement and cost factor matrices in tandem with the corresponding force structure matrices, the annual steady-state cost of the force structure can be calculated. These output data can then be used to compare alternative systems.

h. Model Operation. The model has four separate modules; the user uses only those that are applicable on a particular projection.

(1) Audit: This module checks input data for proper format and determines whether all disposition rates add to 100% for each grade and YOS cell.

(2) Model: Model allows the user to specify the overall strength level and performs the bulk of the calculations to convert rates into numbers of people.

(3) Report Generator: This module prints various output reports; the user can specify whether to print reports for each category or the aggregate only.

(4) Cost: This last module calculates and prints the costs by cost element for each force structure category. Appendix H contains more details on the cost routine. The costs are grouped into five types for which there is both a fixed and variable subtotal:

- (a) Gain-related costs.
- (b) Maintenance costs.
- (c) Special & Incentive pay costs.
- (d) Loss related costs (non-retirement).

(e) Retirement costs (up to 15 different retirement plans can be used, but there is no adjustment of retention rates).

3. Annualized Cost of Leaving (ACOL) Model. Several models were examined in the process of selecting a tool for analyzing the effects on the Service force structures of alternative retirement systems. These included the Gotz-McCall dynamic retention model, the Present Value Cost of Leaving (PVCOL) model, the Stochastic Cost of Leaving (SCOL) model, and the Annualized Cost of Leaving model (ACOL). The Gotz-McCall dynamic retention model was designed to provide the Air Force with the ability to assess the personnel force structure implications of alternative compensation and personnel policies. It is a model of behavior of Air Force officers who must make their continuation decisions while uncertain about future career prospects. Because the Gotz-McCall model could not easily be applied to enlisted force structures, it was not selected by the Fifth QRM. The two other models that were examined and not selected have similar frameworks to that contained in the ACOL model, but each has different limitations as described by John Warner in "Military Compensation and Retention: An Analysis of Alternative Models and Simulation of New Retention Model," August 1982. The ACOL model was selected over the other models because of its ease of application, wide acceptance, and use among the Services and OASD (MRA&L) for evaluating strength projections resulting from the 1981 pay raise. The following discussion summarizes the Fifth QRM use of the ACOL model. (The full details of the ACOL model structure are provided in Appendix I).

The ACOL model lends itself to an intuitive examination of three groups of people: those with a preference for uniformed service, those with a preference for civilian life, and those at the margin who are indifferent but whose decisions to stay or leave are significantly influenced by changes in compensation. Those who prefer uniformed service will stay regardless of compensation related considerations. Those who prefer civilian life will leave regardless of the difference between Service and civilian compensation. The ACOL model predicts if members at the margin will decide to stay (or leave) as the annualized cost of leaving (ACOL) increases (or decreases) in a specific year of service relative to some base case observed retention patterns. The ACOL model uses several elements of data from which to make predictions concerning personnel retention behavior patterns. The data elements fall into six broad categories:

a. Promotion opportunity based on observed strengths by grade and year of service.

b. Compensation policy accounting for basic pay, Special and Incentive pays, basic allowance for quarters, basic allowance for subsistence, variable housing allowance (VHA), and the tax advantage resulting from the tax-free status of the allowances (all pays are observed in a grade and year-of-service perspective).

c. Observed retention patterns of officer and enlisted personnel in each occupational group (see Table IX-1, presented earlier) by year of service for each Service.

(1) All officer retention rates are reported by Total Active Federal Commissioned Service Date (TAFCSO) separated into two subpopulations:

- (a) Officers with no prior service, and
- (b) Officers with prior enlisted or commissioned service.

(2) Enlisted personnel retention rates are measured by Total Active Federal Military Service Date (TAFMSD) separated into two subpopulations:

- (a) Those for personnel within 12 months of end-of-service, and
- (b) Those with a term of service obligation exceeding 12 months.

d. The alternative civilian wage streams which members separating in a given year of service could potentially receive.

e. The assumed personal discount rates through which servicemembers place a value on alternative or deferred compensation streams (i.e., future pay and/or retirement income) in comparison to the present value of the pay they are receiving in their current year of service. While several alternative sets of discount rates were examined (as discussed in Appendix I), the tapered discount rates were used as the basis for comparison of alternative compensation policies. The tapered discount rates were used because they best reflect the considerations people make at each stage in a career. As discussed in Attachment 2 of Appendix I, these considerations include such concerns as training, leave, medical benefits, and permanent change-of-station moves, as well as alternative employment with a civilian company which may have policies covering many of these same considerations.

f. The distribution of losses by year of service due to death, retirement, and attrition. The loss distribution is important for costing purposes, especially in the officer force where prior service personnel may retire before 20 years' active Federal commissioned service.

Several structural modifications were incorporated into the ACOL model to allow better evaluation of alternative retirement proposals.

These modifications fall into four categories: adding flexibility in defining retirement systems; including actuarial assumptions on life expectancy; incorporating the capability to integrate the retirement system with social security benefits; and developing costing summaries for steady-state and dynamic forecasting of transition patterns to a new or modified Uniformed Services retirement system. The types of retirement characteristics which are to be addressed by the Fifth QRMC enhanced ACOL model include:

a. Ability to modify the multiplier (current system is 25 per year of service, maximum at 30 of 75%);

b. Ability to decrement the pre-30 multiplier (decrement vector by year of service used to adjust defined benefit levels, current system is set to zero);

c. Ability to analyze cost of living adjustments (COLA) percentage decrements for a specified inflation factor (current system provides 100% COLA with an inflation factor of 5%);

d. Ability to evaluate vesting by year of service (current system is 20) and deferred annuity age (current system is 38 for enlisted, 42 for officer);

e. Ability to analyze the impact of integration with social security (current system does not have an explicit social security offset applied to the retirement benefit); and

f. Ability to analyze the impact of retirement annuity payments being reduced either partially or in full, to some age later than the date of retirement.

All the above retirement parameters may be used in combination, as well as individually, to evaluate alternative retirement systems, such as dual-track systems that include early vesting with deferred annuities plus a change to the immediate retirement annuity values plus some level of integration with Social Security.

As described in the technical appendix (Appendix I), calibration of the ACOL model was undertaken for several reasons. First, the data sets underlying previous versions of the model excluded most Special and Incentive pays, did not cover the officer force, did not use officer - and enlisted-specific alternative civilian income streams, and needed updating to FY82 compensation levels. Second, previous users observed in calibrating the model on one or more fiscal years that parameter estimates varied for different fiscal years and different occupational groups. Third, rather than using FY82 continuation rates which are presumed to be abnormally high because, among other things, they reflect higher than normal levels of unemployment in the private sector, an average of continuation rates over the past seven-years (FY76-FY82) was used. The choice of the seven-year average continuation rates

reflect the level of continuation the Services have been able to obtain, on average, over the period. They are estimated to be more representative of long-term retention patterns over a period of reasonable stability in strength and force management policy.

In the model calibration phase, the basic form of the compensation/retention relationship specifies retention as a function of the annualized cost of leaving. The annualized cost of leaving is determined by annualizing the difference between the present value of staying in the Service and the present value of leaving the Service. The present value of staying in the Service is a direct function of the Service compensation and retirement policies. The present value of leaving is measured by the alternative civilian earnings stream a member could obtain upon separation. During the calibration phase, two modes of application were evaluated. First, the model was calibrated for each of the sets of discount rates analyzed. Table IX-3 contains selected sets of discount rates for which the model was calibrated. Table IX-4 displays the officer and enlisted parameter estimates (BETA) for the aggregate force mode for each of the alternative discount rate assumptions. Second, the model was estimated using the tapered discount rates for each of the occupational groups evaluated. Evaluation of pay elasticities, development of occupational retention relationships, and examples of the model output are provided in Appendix N. The tapered rate was used as the basic one all for analysis.

Table IX-3
Alternative Discount Rate Assumptions

YOS	10%	OFFSRA*	ENLSRA*	TAPER **	5%	3%
1	10	11.6	14.7	16.4	5	3
2	10	11.6	14.7	11.9	5	3
3	10	11.6	14.6	10.3	5	3
4	10	11.3	14.3	9.5	5	3
5	10	10.7	13.7	9.0	5	3
6	10	10.5	13.7	8.7	5	3
7	10	10.5	13.4	8.3	5	3
8	10	10.3	12.9	8.0	5	3
9	10	10.3	12.8	7.9	5	3
10	10	10.2	12.8	7.9	5	3
11	10	9.9	12.6	7.6	5	3
12	10	9.9	12.6	7.6	5	3
13	10	9.9	12.3	7.5	5	3
14	10	9.8	12.4	7.5	5	3
15	10	10.0	12.4	7.3	5	3
16	10	9.8	12.5	7.4	5	3
17	10	9.9	12.3	7.3	5	3
18	10	9.8	12.4	7.3	5	3
19	10	9.5	12.1	7.3	5	3
20	10	9.5	12.3	7.2	5	3
21	10	9.3	12.1	7.1	5	3
22	10	9.0	11.5	7.2	5	3
23	10	9.1	11.2	7.2	5	3
24	10	8.8	11.4	7.0	5	3
25	10	8.7	11.0	7.2	5	3
26	10	8.4	11.6	7.0	5	3
27	10	8.4	11.6	7.1	5	3
28	10	8.4	11.6	7.1	5	3
29	10	8.4	11.6	7.1	5	3
30	10	8.4	11.6	7.0	5	3

* Army officer and enlisted discount rates as estimated by Systems Research and Applications Corporation using the 1979 DoD Survey of Officer and Enlisted Personnel. For Service-specific rates, see Personnel Discount Rates: Estimates for the Military Population, May 1983.

**Estimated from Air Force data using human capital assumptions. See technical note in Appendix I.

Table IX-4
ACOL BETA Values by Discount Rate

DISCOUNT RATES:	POPULATION	
	OFFICER:	ENLISTED:
Constant (10%)	.000084	.000198
Variable (SRA)	.000075	.000213
Variable (Tapered)	.000065	.000162
Constant (5%)	.000053	.000130
Constant (3%)	.000041	.000102

The officer ACOL model is based on retention rates for non-prior service officers. Non-prior service officers are eligible for retirement after a minimum of 20 years of total active federal commissioned service while officers with prior enlisted service may retire before they reach 20 years of commissioned service. Prior service officer retention patterns were held constant to capture the current policy allowing officers with prior enlisted service to be counted as retiring after they reached 20 years of active service, but before they reached 20 years of commissioned service. The overall officer continuation rates were determined by calculating the weighted average of non-prior service and prior service retention rates.

The enlisted ACOL model was based on retention rates for personnel within one year of the end of their terms of service (ETS). Retention rates for personnel not at ETS were held constant in order to continue to account for Service personnel policies which affect the length of commitment. The overall enlisted continuation rates were determined by calculating the weighted average of at ETS and not at ETS retention rates.

4. Military Retirement System Projection and Actuarial Valuation Program (GORGO). GORGO is a program designed, developed, tested and implemented by DoD in 1980 in order to satisfy the reporting requirements of Chapter 95, Title 31 (Pub. L. 95-595). It is a highly flexible model used to calculate the normal cost percentage, the unfunded liability, accumulated plan benefits and budget outlay projections for the Service retirement system.

The basic concept within GORGO is one of projecting active, retired, and survivor populations, pay and benefits. Given an initial population, the program will project one hundred years into the future. One option allows the user to either "close" the group to future accessions or "open" the projection to include future accessions. Unless otherwise stated, an open projection will assume a level active duty and Selected Reserve force in the future. A new entrant model is used to distribute accessions in the open projection by age and status (non-regular, regular, Title III or active, officer or enlisted). The projected categories are listed in Table IX-5.

The flexibility of the program allows analysis of subsets of these categories. For example, by running a closed projection and eliminating current active duty and Selected Reservists, the projection of current retiree and survivor costs can be developed. This feature was utilized by the QPMC to study outlays under varying scenarios of grandfathering the current retirement system into a new system. It was also used to determine the probabilities of new entrants drawing Service retirement benefits (either active or reserve).

Over 3,500 actuarial decrement rates are read into the program. The rates were created in the Office of the Actuary using highly sophisticated smoothing and graduation techniques. Each year an actual experience compared to expected experience study is completed and, if definite trends indicate a needed change, the rates are recreated. Rates are created by "age" or years of completed service for each category. Types of rates include non-disability retirement, temporary disability, permanent disability, withdrawal (leaving with no benefit), death, transfer, divorce, remarriage, reentry, internal salary increase, mortality improvement, etc. Annual salary scale increases, post-retirement cost-of-living increases, and interest discount rates are input variables to the program.

Other input to GORGO includes a valuation tape. The valuation tape is an aggregated summary of the system (population and pay) on the valuation date. It includes subcategories of active duty, Selected Reservists, retirees, and survivors. This provides the beginning population for the projection. The rates are applied which, in turn, theoretically move people from one category to another or out of the system. At the end of each year, all remaining members are counted and aged. An open projection uses the new entrant model to bring the force size back up to the desired level at the beginning of each year.

The exactness of GORGO allows definitive analysis of benefit changes. It includes detail, such as timing of COLAs and pay increases, VA offsets, survivor benefit premium reductions, partial month's credit, social security offset to the Survivor Benefit Plan and high-three calculations. As directed in FY85 (Pub. L. 98-94), DoD will move from a pay-as-you-go retirement system to an aggregate entry-age normal cost funded method. Under this method, DoD will budget for the normal cost instead of actual retired outlays. The normal cost is the product of the normal cost percentage (NCP) and basic pay. The FY82 NCP was 50.7% of basic pay (assuming high-three).

The definition of the aggregate entry-age normal cost percentage (NCP), is the present value of future benefits divided by the present value of future basic pay for an entering cohort of accessions. It is the percentage of basic pay needed to be placed in a fund each time a member is paid in order to cover the cost of all future retirement benefits for those in the cohort group who ultimately draw benefits.

In order to produce this normal cost percentage (NCP), the model projects the future behavior of an entering cohort. The decrement rates act on the population and one hundred years of benefit and basic pay histories are produced. When discounted back to the valuation date, with interest, the NCP can be determined. The NCP can only be affected if there are changes in the retention rate (i.e., changes in force behavior, the economic assumptions, or in the level of the retirement plan benefits).

In order to easily analyze the impact of alternatives in Service retirement, various change options were made interactive in GORGO. The combination of options (partial COLAs of any fraction with or without "catch-up," EARLY WITHDRAWAL various penalties for retirement under 30 years of service, reduced multiplier, etc.) produced an enormous number of scenarios. All NCPs resulting from these benefit changes were based on today's force structure and retention rates.

The ACOL model produced new force structures that would evolve if the retirement system changed. In order to associate an ultimate NCP with this new force structure, a method was developed to link ACOL and GORGO. The QRMC model interface unit was written to take the new force structure and experience of ACOL and (using the actuarial exposure formulas) create new rates to be read into GORGO. Another program re-structured the rates into the proper input format and created an internal salary scale for the new force. Finally, GORGO was rerun using ACOL projected retention rates -- giving an ultimate normal cost percentage (UNCP) or the DoD ultimate cost once the force reacted to the new system. The projection categories for which summary data are available from GORGO are listed in Table IX-5.

Table IX-5
GORGO Projection Categories

1. Active duty populations and basic pay
 - a. non-regular officers
 - b. regular officers
 - c. non-regular enlisted
 - d. regular enlisted
2. Reserve Components (formerly Title III) populations and basic pay
 - a. officers
 - b. enlisted
3. Retiree populations and retired pay
 - a. non-disabled officers (no reservists)
 - b. non-disabled enlisted (no reservists)
 - c. officer reservists
 - d. enlisted reservists
 - e. disabled officers
 - f. disabled enlisted
4. Retiree population gains during year and average initial retired pay
 - a. non-disabled officers (no reservists)
 - b. non-disabled enlisted (no reservists)
 - c. officer reservists
 - d. enlisted reservists
 - e. disabled officers
 - f. disabled enlisted
5. Surviving families in a survivor benefit plan and total annuities
 - a. Retired Servicemen's Family Protection Plan (RSFPP)
 - b. Survivor Benefit Plan (SBP)
 - c. Reserve Component Survivor Benefit Plan (RCSBP)
 - d. Dependency and Indemnity Compensation Supplement (DIC)
 - e. Minimum Income
6. Total-Service retired and survivor outlays and basic payroll.

5. Model Interface Unit.

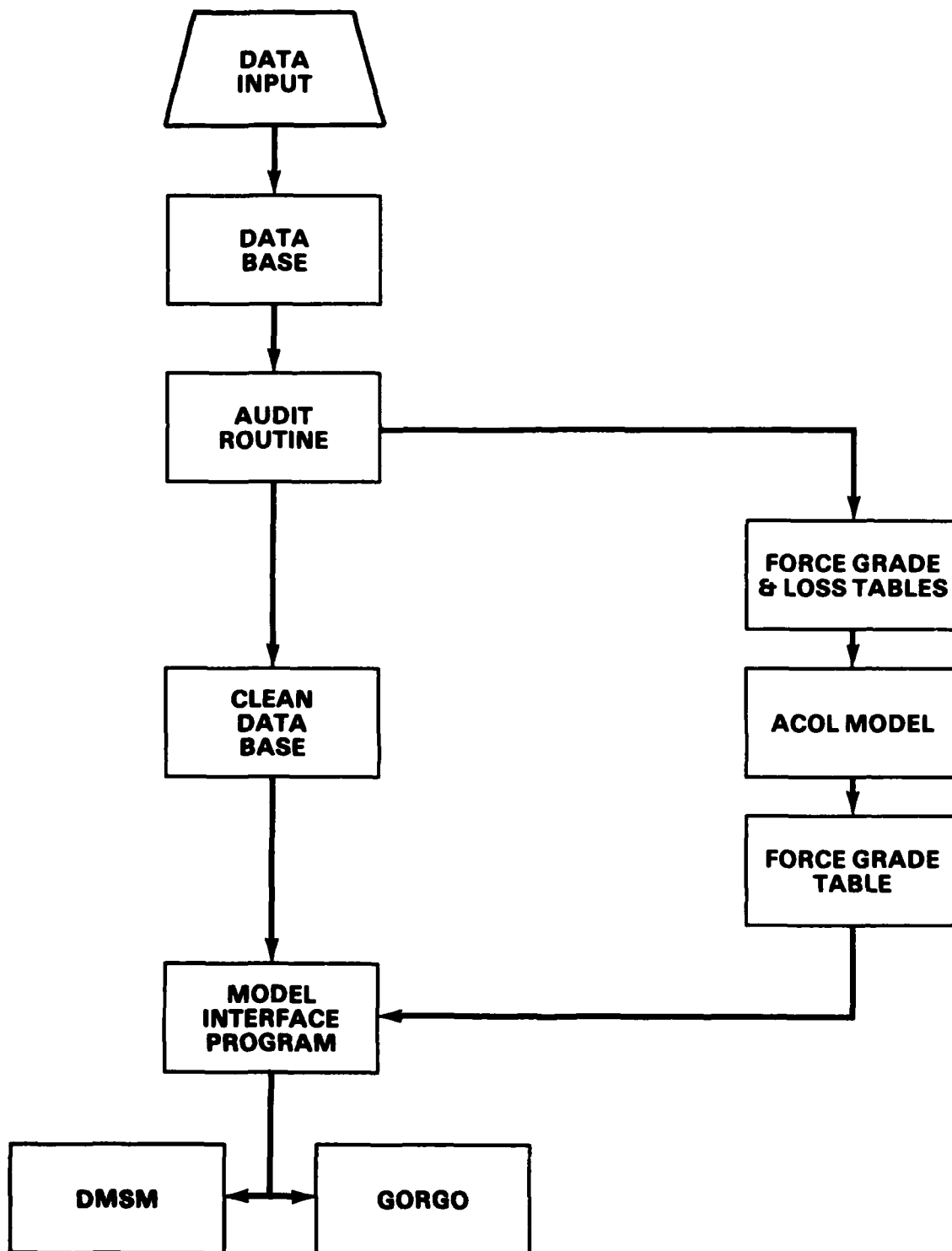
a. Introduction. The model interface section of the retirement analysis deals primarily with the manipulation of the input data base between the two major analytical models, the Annualized Cost of Leaving (ACOL) model and the Defense Manpower Static Model (DMSM). It also deals with the creation of data sets for the actuarial projection model (GORGO). This is a multistep process during which the Service data is audited and reformed for use by the ACOL model, the ACOL output is reformed by the Model Interface Program for direct input to DMSM, and force profile and decrement tables are created for input to GORGO. The flow through the various steps is depicted in Figure IX-3.

b. Data Validation and Audit. The first step in this process is to insure that the force structure flow dynamic data submitted by the Services is "clean" and that the flow dynamics are consistent; that is, that the flow dynamics do, in fact, support the force structure. An interactive FORTRAN audit program was written to perform these checks and to provide some initial descriptive information and statistics on each of the Services' data sets. In addition, the program generates force grade tables which are by year of service (YOS) and by paygrade distribution, loss tables, and displays of manpower in various loss categories by YOS. These tables become part of the ACOL data base. A more detailed description of the audit program and examples of the generated output are located in Appendix J.

c. Model Interface Programs. The model interface programs developed for use by the QRCM were needed to link the inputs and outputs of the three computer models previously described. The major interface program links ACOL and DMSM, in order to develop and cost the steady-state force structures produced by ACOL and the costing and smoothing of force structures by DMSM. A separate interface program allows the ACOL output to be fed to GORGO which, in turn, produces normal cost projections. A brief description of each of these interface programs is provided below. Detailed documentation and sample output are contained in Appendix J, to this section.

(1) ACOL/DMSM Interface: A major problem encountered in the analysis was the inability to interface ACOL and DMSM, since the output data set from ACOL is incompatible with the data set requirements of DMSM. An interactive FORTRAN program was designed to "link" the two models.

Figure IX-3
Data Flow Between Program Elements

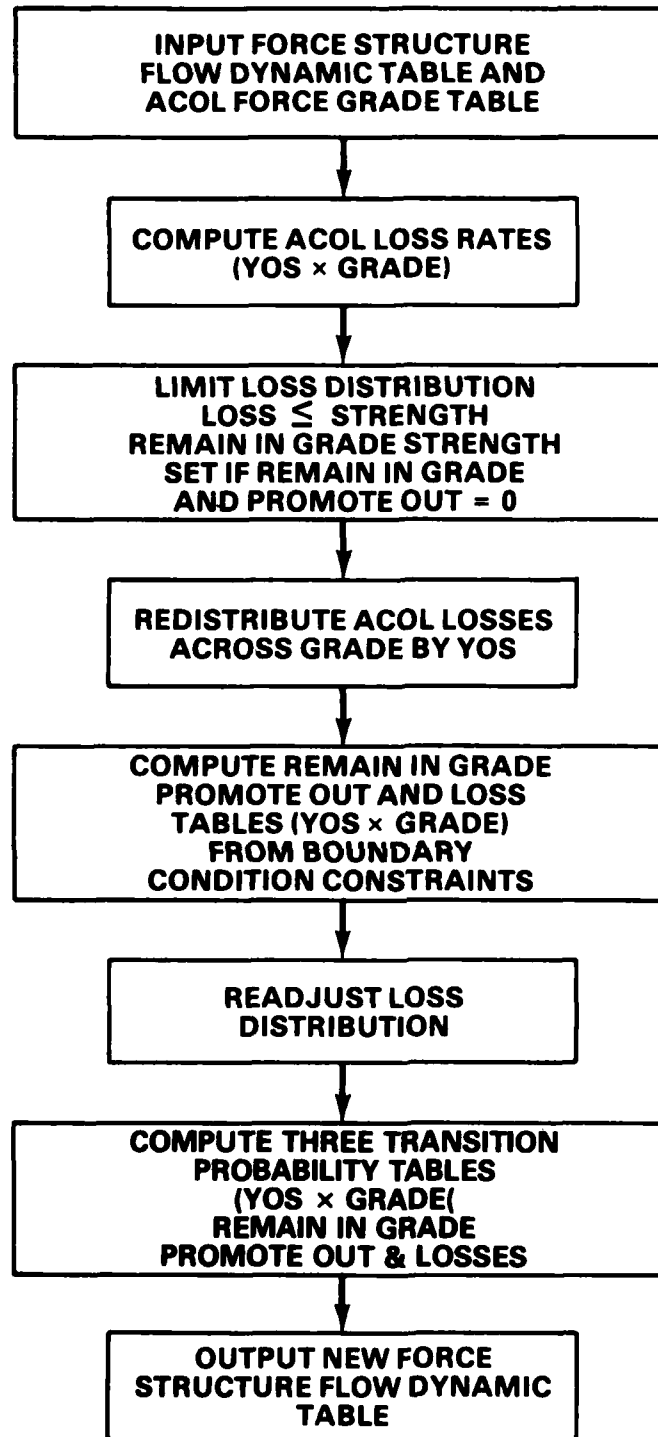


As stated above in paragraph 5.b., force grade tables and loss tables are created from each Service's force structure flow dynamic data sets. The ACOL model uses this input data in its computations to produce a new force configuration based on various modeled assumptions. This new force configuration is a years of service by pay-grade array of manpower strengths.

The DMSM model was designed to read data formatted according to the force structure flow dynamic data sets originally submitted by the Services. This data set is a three dimensional array which is, in effect, a greatly expanded version of a typical force grade table. In addition to containing manpower strength information across the YOS and paygrade dimensions, it divides the YOS dimension into thirteen categories of loss types or reasons which describe how manpower is "lost" from a YOS cell by paygrade. Of these, eleven are categorized as losses to that particular force and structure, including death, retirement, other attrition, and transfers to other occupational categories or officer programs. The remaining two categories, "remain-in-grade" and "promote-out" are reasons to be "lost" from that YOS cell but are retained within the system. The remain-in-grade category describes the transition into the next YOS cell in that paygrade. The promote-out category describes the transition to the next YOS cell in the next higher paygrade.

The task of the interface program is to expand the two dimensional output of ACOL into the three dimensional input requirements of the DMSM model. Basically, this is done by comparing the manpower distribution contained in the ACOL data set with the loss distributions, promotion flow points and retention patterns contained in the original force structure flow dynamics table to produce a new data set of flow dynamic rates that support the revised manpower distribution from ACOL. The flow chart in Figure IX-4 indicates the main elements and logical flow of the program.

Figure IX-4
General Interface Program Flowchart



(2) ACOL/GORGO Interface: The purpose of the ACOL/GORGO interface is to provide data sets to the actuarial projection model.

The data sets are produced directly from the Force Structure Flow Dynamics tables created by the ACOL/DMSM interface program described above and consist of a YOS by grade manpower distribution and a Force decrement table. A set of data tables is produced for each Service, by officer and enlisted populations, plus a DoD aggregate.

The Force Decrement table consists of six categories of decrement rates by YOS. The six categories are withdrawal (leaving with no benefit), death, non-disability retirement, temporary disability retirement, permanent disability retirement and transfer. These categories do not relate directly to the loss-reason categories in the Force Structure Flow Dynamic table. Therefore, some loss reason categories were combined to obtain the six decrement categories. Table IX-6 describes how the loss-reason categories were combined to form the decrement-rate categories. The formulas used to create the decrement rates themselves are straightforward and are listed in Table IX-7.

Table IX-6
Conversion of Loss-Reason Categories
into Decrement-Rate Categories

<u>Loss-Reason Category</u>	<u>Decrement-Rate Category</u>
Death	Death
Transfer to Officer Programs	Transfer Rates
Attrition - Retirement: Disability	Permanent Disability Retirement
Attrition - Retirement: Force Control Voluntary Involuntary	Non-Disability Retirement
Attrition - Other Disability	Temporary Disability Retirement
Attrition - Other Force Control Voluntary Involuntary	Withdrawal

Table IX-7
Decrement Rate Formulas

$$\text{WITHDRAWAL} = \frac{\text{WITHDRAWAL}}{\text{TOTAL STRENGTH (YOS)}}$$

$$\text{DEATH} = \frac{\text{DEATH}}{\text{TOTAL STRENGTH (YOS)} - 1/2 (\text{WITHDRAWAL} + \text{NON-DISABILITY})}$$

$$\text{NON-DISABILITY} = \frac{\text{NON-DISABILITY}}{\text{TOTAL STRENGTH (YOS)}}$$

$$\text{TEMPORARY DISABILITY} = \frac{\text{TEMPORAY DISABILITY}}{\text{TOTAL STRENGTH (YOS)} - 1/2 (\text{WITHDRAWAL} + \text{NON-DISABILITY})}$$

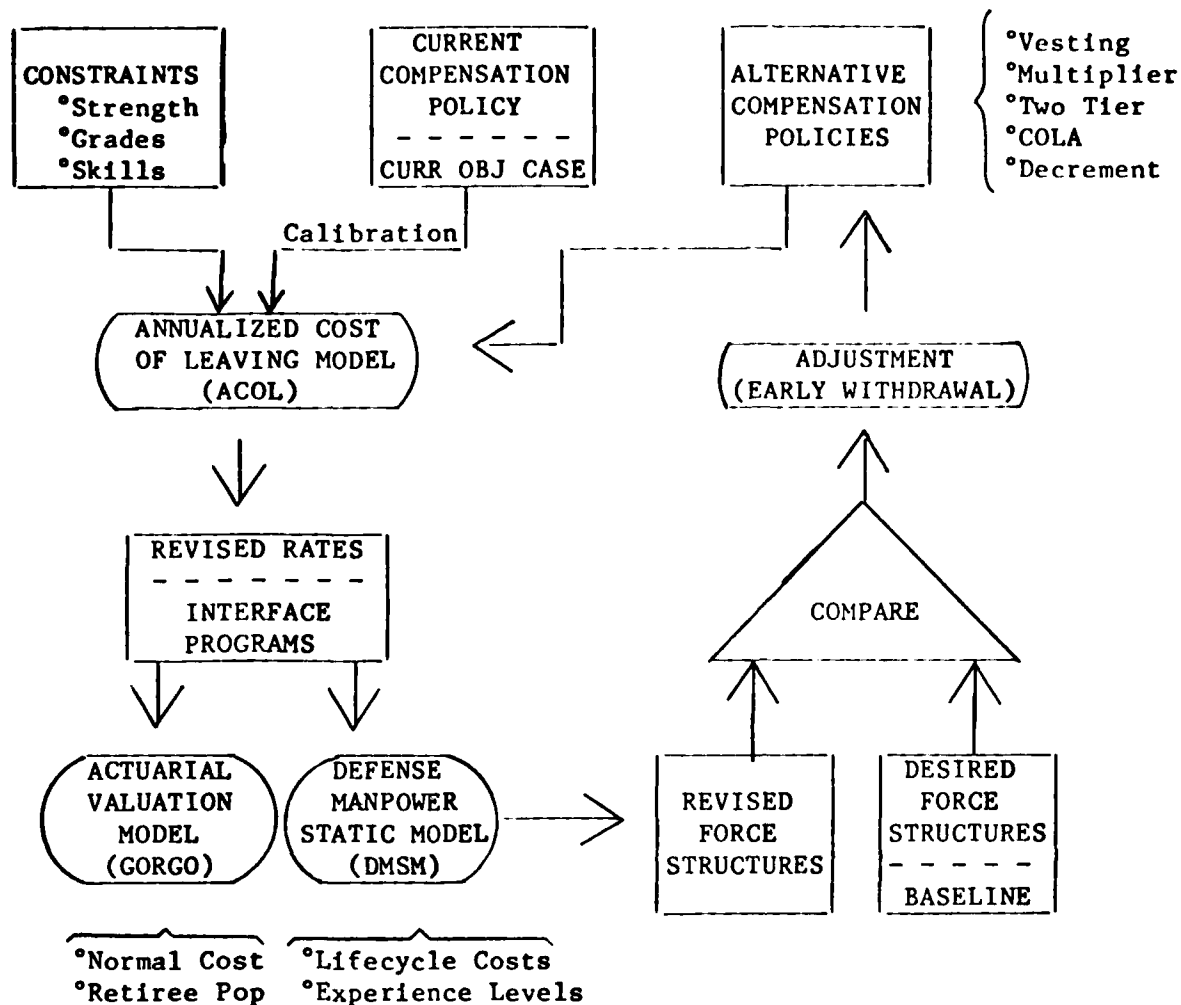
$$\text{PERMANENT DISABILITY} = \frac{\text{PERMANENT DISABILITY}}{\text{TOTAL STRENGTH (YOS)} - 1/2 (\text{WITHDRAWAL} + \text{NON-DISABILITY})}$$

$$\text{TRANSFER} = \frac{\text{TRANSFER}}{\text{TOTAL STRENGTH (YOS)} - 1/2 (\text{WITHDRAWAL} + \text{NON-DISABILITY})}$$

For GORGO data, the term years-of-service is defined as years of total Federal service. It was assumed that for the enlisted population, years of service is total Federal service. However, for the officer population, years of service is commissioned service and, therefore, has to be adjusted to total Federal service to be consistent with GORGO's data requirements. To make the year-of-service conversion, DMDC provided a data set based on an average of the last seven years (percent years of commissioned service by years total federal service). Appendix J contains an example of the data used to make this conversion.

D. ANALYTICAL PROCESS. The actual operation of the models is shown in Figure IX-5. Beginning with Service steady-state force structures constrained to FY82 force levels, the models proceed through: (1) a calibration of retention to the current compensation policies; (2) projection of new force profiles in response to changes in compensation policy, i.e., retirement and or Special and Incentive pays; (3) development of new retention rates, promotion flow rates, and loss rates necessary to support the new force profile; and (4) evaluation of total lifecycle costs of the force structure associated with the alternative compensation policies. The new force profiles may then be compared with the Service desired force structures, differences noted, and compensation adjustments made to obtain the desired profiles.

Figure XI-5
Model Operation Flow Chart



E. ANALYTICAL LIMITATIONS. While ACOL was expanded for the first time to cover commissioned officers in the grades of O-1 through O-6, the steady-state design which allows the model to operate in the environment of a closed personnel system, precludes its extension to lateral accessions. Although, in the officer model, this problem was overcome by holding prior service retention rates constant and observing the retention behavior of non-prior service officers, the Army's significant number of non-prior service warrant officers prevented the use of this approach to cover the warrant officer force.

Two other force structures to which ACOL could not be applied are those of the National Oceanic and Atmospheric Administration (NOAA) and the Public Health Service (PHS). Data to support analysis of these two agencies were limited by their relatively small force structures and the lack of adequate automated historical data. NOAA has approximately

400 officers while PHS has about 5,600 officers. Although the Coast Guard force structures (officer and enlisted) were analyzed during the study, accurate evaluation was hampered by the relative lack of historical retention behavior similar to that available for the DoD Services. Appendix I does, however, contain the results of an initial Coast Guard ACOL analysis.

The ACOL model has been criticized on two points. The first criticism is based on the fact that future Service and civilian income streams are assumed to be known with certainty. If the income streams were known with certainty, an individual's time horizon for staying would be known with certainty. In the real world, future income streams may not be known with certainty. However, as can be seen by comparing the retirement and pay components of the Annualized Cost of Leaving (ACOL) values, the retirement component is positive and monotonically increasing over the course of a career up to the point of retirement eligibility. Alternatively, the pay component, whether positive or negative, is relatively flat so that the uncertainty of changes in the differential between the Service and civilian income streams serves only to change the level of the ACOL values and, hence, the levels of the corresponding retention rates. That is, when Service pay falls behind the level of civilian compensation, as in 1979, retention rates drop. When Service pay catches up, as in 1981, retention rates improve. Regardless of the level of the pay differential, the period of Service required for retirement eligibility is known with certainty, i.e., 20 years of creditable service. This model limitation concerning service and civilian income differentials serves as a reminder that retirement cannot overcome degraded compensation. Compensation policy will need to continue to strive toward the objective of keeping the gap between the Service and civilian income streams relatively narrow.

The second criticism is that random events other than those associated with the uncertainty of the income streams may induce members to leave. This argument further suggests that, if members are aware of the probabilities with which the random events will occur, they will incorporate these probabilities into their cost-of-leaving calculations. This criticism is partially overcome by use of the tapered discount rates applied in the 5th QRM version of ACOL. The tapered discount rates allow members planning or expecting to stay in the Service to adjust their future discount rates based on knowledge of how their predecessors responded to personnel management policies concerning entry age, training, permanent-change-of-station moves, leave policy, medical nonavailability, and experience requirements. While the tapered rates capture the influence of a significant range of personnel policies, they were based on observed behavior of Air Force enlisted personnel. Further work needs to be done in this area to bring the full range of personnel management policies to bear on the retention decisions of members in all the Uniformed Services.

X. ALTERNATIVE RETIREMENT CONSIDERATIONS.

A. INTRODUCTION. The basic approach to the analysis of retirement alternatives is to evaluate how the Services should allocate personnel dollars to maximize mission readiness. Dollars can be allocated either to current compensation (pay/allowances) or to deferred compensation (retirement). In evaluating retirement alternatives, the Fifth QRM task was to determine if mission readiness and sustainability could be improved or sustained at current levels by a redistribution of some portion of the retirement benefit to either an earlier timeframe within a retiree's lifespan or to the current pay that a servicemember received while on active duty. Phrased differently, can the career force size be reestablished or improved, relative to Service requirements, by re-allocating some of the retirement cost avoidance funds to current compensation or into a restructured package of retirement benefits? Said yet another way: How can the total manpower cost be spent to optimize mission readiness and sustainability? If the same or an improved level of mission readiness can be sustained by restructuring retirement dollars, then careful consideration to implementation of changes should be made.

In the retention modeling analyses described in Section IX, the focus was on achieving mission readiness after observing the impact on the long-term or steady-state Service force structures from alternative adjustments to current levels of retired/retainer pay. This section describes the types of adjustments to the retirement system which were evaluated. Because Congress revised the retirement computation formula for members entering service on or after September 8, 1980, all retirement alternatives to the base case use the "high-three" (HI-3) average of basic pay in determining the retirement annuity. For the base case, the current retirement system, the amount of retired pay is equal to basic pay of the retired grade of the member multiplied by 2.5% times the number of years of creditable service up to a maximum of 75%. This provides the basis for examining the previously undefined impact of the HI-3 change and the opportunity to overcome the yet unseen HI-3 force impact (too early to have had an effect). The types of adjustments to the current retirement system evaluated include:

1. Multiple year (HI-3) averaging of basic pay for retired pay.
2. Modified multiplier for years of service.
3. Pre-30 years (early retirement) retired pay adjustment.
4. Cost-of-living adjustments (indexing).
5. Changes in vesting.
6. Coordination with social security.
7. Member contribution.
8. Combinations of the above adjustments.

B. MODIFIED MULTIPLIER. Several options were evaluated by adjusting the retired pay level as a percent of basic pay. Table X-1 shows the benefit levels, for selected options, used to examine the sensitivity of accession and career strength levels to multiplier adjustments. For each option, the current retirement system was used as the base case. The new retired pay level was then modified by a reduction

in the current multiplier of 0.25%. The reductions evaluated were 10%, 20%, 30%, 40%, and 50%. Each new set of retired pay levels was then input to the Annualized Cost of Leaving (ACOL) model to project the steady-state accession levels and career force strengths. (See Section XI and Appendixes I and L for a detailed discussion of the ACOL model and the Service-specific results for these options).

Table X-1
Retirement Benefit Level as Percent of Basic Pay
Modified Multiplier Options

YOS	Current System	Multiplier Reduction Percentage				
		10%	20%	30%	40%	50%
20	50.0	45.00	40.00	35.00	30.00	25.00
21	52.5	47.25	42.00	36.75	31.50	26.25
22	55.0	49.50	44.00	38.50	33.00	27.50
23	52.5	51.75	46.00	40.25	34.50	28.75
24	80.0	53.00	48.00	42.00	36.00	30.00
25	62.5	56.25	50.00	43.75	37.50	31.25
26	65.0	58.50	52.00	45.50	39.00	32.50
27	67.5	60.75	54.00	47.25	40.50	33.75
28	70.0	63.00	56.00	49.00	42.00	35.00
29	72.5	65.25	58.00	50.75	43.50	36.50
30 and up	75.0	67.50	60.00	52.50	45.00	37.50

C. PRE-30 YEARS OF SERVICE BENEFIT REDUCTION. Another set of adjustments to the retired Pay levels was based on keeping the level at 30 years of service and reducing the level for each pre-30 year at which a member could retire. Table X-2 shows the retirement benefit levels based on reducing the current retired/retainer pay by one to six percent for each pre-30 year. Notice that, under these options, the retirement benefit levels at 20 years of service start at the same level as in Table X-1, but increase more rapidly as a member elects to remain longer in the career force. Therefore, this type adjustment does not reduce the overall retirement costs as severely as adjusting the multiplier. When these retirement benefit levels are input to the ACOL model, one observes a somewhat different response in accession and career force strengths than was the case for the modified multiplier options. Because the retirement benefit at 30 years of service remains unchanged, of those members who would stay to 20 years of service, more remain in the career force for each additional year from 20 to 30 than was the case under the modified multiplier options. This result was expected.

Table X-2
Retirement Benefit Level as Percent of Basic Pay
Reduced Early Benefit (Pre-30 YOS) Options

YOS	Current Systems	Reduced Early Benefit (per year pre-30)					
		1%	2%	3%	4%	5%	6%
20	50.0	45.00	40.00	35.00	30.00	25.00	20.00
21	52.5	47.78	43.05	38.33	33.60	28.88	24.15
22	55.0	50.60	46.20	41.80	37.40	33.00	28.60
23	57.5	53.48	49.45	45.43	39.10	37.38	33.35
24	60.0	56.40	52.80	49.20	45.60	42.00	38.40
25	62.5	59.38	56.25	53.13	50.00	46.88	43.75
26	65.0	62.40	59.80	57.20	54.60	52.00	49.40
27	67.5	65.48	63.45	61.43	59.40	57.38	55.35
28	70.0	68.60	67.20	65.80	64.40	63.00	61.60
29	72.5	71.78	71.05	70.33	69.60	68.88	68.15
30 and up	75.0	75.00	75.00	75.00	75.00	75.00	75.00

D. COST-OF-LIVING ADJUSTMENTS (COLA). The influence of several cost-of-living adjustments (COLA) on the value of the retirement benefit were evaluated to determine what impact COLAs have on force strength. Reduced COLAs until either retiree age 62 or the anniversary of 30 years of service were analyzed. Table X-3 shows the percent of the current retirement benefit level remaining after specific COLAs, assuming a constant consumer price index (CPI) of 5%. Note that, if the CPI were 10% or double, the percent of the retirement benefit level shown in the table would be realized in approximately half the years in retirement status. For example, a 50% COLA at 5 years would reduce the benefit level to about 78.6% rather than 88.6%. When the COLAs are input into the ACOL model, a 50% COLA until age 62 reduction has about the same absolute force impact as does the 20% reduction in the multiplier. However, the reduction in the normal retirement system cost percentages is greater for the COLA reduction than for corresponding modified multiplier.

Table X-3
Percent of Current Retirement Benefit Level
Remaining after Cost-of-Living Adjustments
by Years in Retirement

Years in Retirement	Reduction in COLA of .05					
	10%	25%	33%	50%	67%	100%
5	96.6	94.2	92.4	88.6	85.0	78.4
10	95.3	88.7	85.4	78.6	72.3	61.4
15	93.1	83.6	78.9	69.7	61.5	48.1
20	90.9	78.7	72.8	61.8	52.3	37.7
25	88.8	74.1	67.3	54.7	44.5	29.5
30	86.7	69.8	62.2	48.5	37.8	23.1

E. CHANGE OF VESTING. Several changes of vesting options were evaluated. The first series of vesting options concerned the provision of early vesting at 5, 10, or 12 years of service with a deferred annuity while retaining an immediate annuity for completion of 20 years of active or creditable reserve service as under the current system. For these early vesting options, the ages evaluated at which a member could receive an annuity after leaving service before completing 20 years were 55 and 60. These vesting options were assessed using both full COLA indexing from both the time of separation to age 55 or 60 and no indexing until reaching age 55 or 60. Under all early vesting options, the required accession levels increased, as did the cost of the retirement system, while the size of the career force decreased.

A second set of vesting options was evaluated for extended eligibility for retirement to years-of-service 22, 24, 26, 28 and 30. These options were examined under two alternative sets of assumptions. First, using the historical seven-year average base case continuation patterns, the number of years of service for retirement eligibility were extended, the annualized cost of leaving values were adjusted, and a new pattern of continuation rates was observed. Under these conditions, the size of the career force increased marginally for vesting at 22 or 24 and then decreased marginally for vesting at 26 through 30 years of service. For each of these extended eligibility vesting options, the size of the force over 20 years of service increased significantly above the base case.

Second, assuming that the peak retention rates would be observed in the years immediately preceding the first year of vesting, the historical retention rates were shifted to correspond to the appropriate vesting option. For example, to evaluate vesting after 22 years of service, the seven-year average retention rates for members in their 20th year of service were shifted to year-of-service 22. Similarly, seven-year average retention rates for years-of-service 6 through 19 were shifted to years-of-service 8 through 21. The retention rate for the first 5 years of service were left unchanged. To fill the gap between years of service 5 and 8, the seven-year average retention rate for year-of-service 5 was duplicated in year-of-service 6, while the historical retention rate for year-of-service 6 was duplicated in year-of-service 7. This retention rate shift and gap-splicing procedure was used for each of the extended vesting options analyzed. Retention rates after the 20th year of service were also shifted into two years of service with those beyond year 35 being dropped. Under this alternative set of retention assumptions for the base case, the size of the career force declined significantly and accession levels increased with each extension in retirement eligibility.

F. COORDINATION WITH SOCIAL SECURITY. The question of integrating the social security benefit with the Uniformed Services retirement benefit arises because private-sector plans are, in general, integrated. The issue of coordination with social security was evaluated from two perspectives. First, a careful evaluation of the current compensation system of the Uniformed Services was undertaken to determine the amount by which social security benefits are, in fact, reduced due to compensation in-kind

and/or non-taxable earnings not covered by social security. In 1968, Congress granted Service personnel a \$1,200 wage credit to cover the value of "payment-in-kind" of food and shelter. The \$1,200 wage credit was adequate to cover the value for most personnel of "payment-in-kind" as measured by the basic allowance for quarters and the basic allowance for subsistence at that time. Since 1968, the social security maximum wage ceiling had increased more rapidly than has the level of basic pay. As Appendix N indicates, in 1983 significant wage credit shortfalls in coverage of the "payment-in-kind" exist. Based on the analysis in Appendix N, the wage credit shortfalls translate into an implied social security benefit offset of nearly 20% of the benefit which would accrue if full average of "payment-in-kind" up to the maximum wage ceiling for enlisted personnel were permitted. For officer personnel, the implied offset ranges downward from 15% to 5%. It is, therefore, concluded that the current Uniformed Services retirement system and social security are "de facto" integrated to a significant extent, but not in an explicit way as found in the private sector.

The second perspective from which coordination of the current retirement system with social security was evaluated was by analyzing the impact on the Service force structures which would result from further integration of the explicit type. Using the ACOL model to compute the value of a member's social security based solely on Service earnings, the member's retired pay was reduced at age 62 by alternative percentages of the member's social security benefit. The resulting increase in accession levels was about 0.8% for each additional 10% of the social security offset. Several methods for an explicit integration are discussed in Section XI-C.

G. MEMBER CONTRIBUTION. This alternative consideration would simply require servicemembers to contribute a percentage of their basic pay to the retirement trust fund. The percentage could be based either on basic pay or basic military compensation (BMC). Contribution levels of 3.5%, 7% and 10% of basic pay were evaluated using the ACOL model. Generally, for each one percent of contribution a 0.7% increase in enlisted accession (1.2% for officers) is experienced along with a 0.8% reduction in the enlisted career force strengths.

H. COMBINATIONS. As indicated earlier in Section IX, each of the preceding alternative retirement parameters can be evaluated separately as well as in combination with one another. Analyses was conducted both ways. Principal combinations involved merging a COLA with an adjustment to a pre-30 year-of-service retiree benefit. A large number of combinations were briefly examined and three specific major combination alternatives were analyzed in detail. These were: (1) a 2% pre-30 benefit reduction combined with paying a 75% COLA until age 62; (2) a 3% pre-30 benefit reduction combined with paying a 75% COLA until age 62; and (3) a 3% pre-30 benefit reduction combined with paying a 67% COLA until age 62.

Additional combinations evaluated included early vesting with deferred annuities under reduced COLA until age 62 using the HI-3 aver-

age basic pay for calculating retired pay. In other cases, a social security offset was added. Finally, all the different retirement adjustments were combined and examined using the ACOL model to evaluate the various major past retirement proposals.

I. REALLOCATION OF RETIREMENT COSTS. Each of the preceding paragraphs of this section has dealt with how to change the value of the retired or retainer pay level. This leaves the issues of if, how and how much of the dollars resulting from a retirement reduction should be reallocated within the total compensation system to restore any negative impacts on the overall force structure. Three types of reallocation alternatives were examined as a part of this review. The first was to place all or part of the dollars into current compensation. The second was to restore, or affect a "catch-up" of, the reduced benefit at a selected age or year of service (YOS). The effect of this type reallocation in the case of a reduced COLA is to restore the benefit starting at that YOS or age to what it would have been if a full COLA had been paid during the preceding period. It does not make payment retroactive. The same type restore situation occurs for a reduced pre-30 YOS retiree's benefit. The third type of reallocation examined was the provision for servicemembers to withdraw a portion of their earned retirement benefit earlier in the retirement period but only after completing the 20th year of service. This type of reallocation has been termed an EARLY WITHDRAWAL of a part of the servicemember's projected lifetime retirement pay. The actual implementation policy of this type of reallocation is open to debate; however, it has been assumed for the Fifth QRM analysis that the benefit is available at specific years of service whether the member retires at that time or not. The assumed policy could allow a low interest loan of most of the money if the servicemember chooses not to retire at that point. This type of reallocation has precedent within other countries' Service retirement systems and is not unlike many of the private-sector capital accumulation plans gaining increased popularity and use. In fact, there has been and continues to be interest within the State and Federal governments in capital accumulation. This EARLY WITHDRAWAL aspect will be discussed in greater detail later in the report.

XI. ANALYSES. The analyses of the Uniformed Services retirement system required that the primary analytical path focus on the force structures which best reflected the Services requirements necessary to fulfill their various missions in support of national defense. Therefore, the effects of any change to the retirement system had to be evaluated against their resultant impact upon force structure. This section deals with the analyses which were performed during the course of the study and is structured to reflect the methodology used and the issues resolved. The analyses flowed from the initial force structures, which formed a reference base, through special issues such as vesting, social security integration, force quality and occupational impacts. These special issues, each of which was examined in detail, were not new and have surfaced during many previous examinations of the Uniformed Services retirement system. Each of the issues was addressed individually, and in most cases collectively, to evaluate and analyze their impact upon the force and just as importantly, their individual and collective merit to the defense establishment as well as to the servicemember. The analyses also took into consideration the effects of any changes to the retirement system upon the Reserve Components, disability retirees and the survivor(s) of the retirees.

Several hundred retirement options were considered, analyzed and costed during the course of the study. These also included an in-depth look of several of the more significant proposals which resulted from previous studies. The analyses were significantly enhanced by the development of state-of-the-art computer models and interface programs which allowed for detailed examination of many aspects of the retirement system which previously could only be judged subjectively. This enhanced computer capability also allowed the modeling of the transition impact of various alternatives. Thus, the capability now exists to project the effects of changes to the retirement system from the current dynamic scenario to a projected static outcome. Even though highly sophisticated analytical techniques were used, there remain nonquantifiable aspects of the retirement system that must not be overlooked because they are, in fact, an integral part of the analyses. Full consideration was given to force readiness by ensuring that any retirement alternative examined would provide the necessary incentive for quality servicemembers to remain on active duty, ensuring that each Service's requirement for mature leadership was maintained while at the same time still providing the necessary blend of youth and vigor. Full cognizance was given to the value of the retirement system from the servicemember's viewpoint by designing alternatives which, while reducing the retirement benefit, provided a system which retained an immediate annuity for retirement upon completion of twenty years of creditable service and increased annuity value for service beyond that point. The needs of the Service and servicemember were always weighed and balanced against the requirements to meet the manpower objectives dictated by our national security objectives.

A. FORCE REQUIREMENTS. The primary analytical methods used by the Fifth QRMF focused on the manpower structure that would produce a force, provided by the Services, capable of meeting the missions dictated by

national policy. In order to initiate the analyses of the Uniformed Services Retirement System it was necessary to have defined the force profiles that the Uniformed Services desired to meet their objectives. As outlined in Section IX, certain parameters were defined and specific force structures were requested from each of the seven Uniformed Services. All Services responded; however, only the DoD and Coast Guard were used in conjunction with the ACOL model. In all, six separate and distinct force structures were developed and analyzed (three were developed by the Services and three were subsequently developed by the Fifth QPMC staff). These reference force structures are listed in the order that they appear (left to right) in Tables XI-1 through XI-10.

1. Base Case. The seven-year average steady-state force structure was developed by the QPMC staff utilizing averaged historic retention rates achieved by each Service from FY76 through FY82. These retention rates were then smoothed and weighted to project a steady-state force structure. It became the base case from which all force structures were measured.

2. HI-3. An adjunct of the seven-year average steady-state force (base case) is labeled "HI-3" and is a steady-state force. It reflects the effect on the base case force profiles resulting from the calculation of the retired pay moving from terminal basic pay to the high-three averaging for those members who entered the Services after 8 September 1980.

3. FY82 Actual. The actual FY82 force structure is the configuration of the active force, by year of service, as it was at the end of FY82.

4. FY82 ACOL. The FY82 ACOL force structure developed by the QPMC staff is a force which used the actual retention rates achieved by the Services in FY82. These rates were projected forward 35 years at which time a steady-state force was configured which has a large career force content and correspondingly low annual accessions. It reflects a force structure which would result if FY82 rates could be maintained well into the future and it ultimately approaches or exceeds the force structure submitted by the Services in the baseline force.

5. Current Objective. The current objective steady-state force is also a theoretical force structure designed by the Services. It reflects the current "best" structure they could obtain taking account of current force profiles and current compensation policy using historic retention patterns to determine the content of the force.

6. Baseline. The baseline steady-state force is a theoretical force structure designed by the Services which reflects their desire to continue personnel on active duty until their usefulness or marginal utility to the active component begins to diminish. The baseline force is the desired blend, by grade, years of service and occupational grouping of personnel who meet the Service stated requirements to man, maintain

readiness, and provide leadership for the use of high technology equipment. This force structure is unconstrained by current compensation policy and by historic continuation patterns.

The six force structures provided a broad analytical base upon which various alternatives to the current retirement system could be analyzed and evaluated. It also provided a unique opportunity to project into steady-state configuration force structures which portray not only desired force configurations but also theoretical structures which reflect past, present and future force management and compensation decisions.

The effects of the introduction of the HI-3 average in calculating the retirement annuity is reflected in Tables XI-11 through XI-13. As can be seen, the reduction of over 10% in the retirement annuity results in a reduction in the career force, most notable within the enlisted force. However, the most significant impact occurs within the late career force (21 through 30 years of service) where a 5% reduction for officer and a 22% reduction in the enlisted force is projected. While this force structure is not a key analytical element, it does provide a benchmark requiring consideration when any alternative to the current retirement system is analyzed since the projected losses to the force structure, as a result of the HI-3 change, must be overcome if the Services' desired force structures are to be achieved in the future.

The profiles of the seven-year average or base case are depicted in Figures XI-1 and XI-2. As can be seen, the officer and enlisted force react differently over the thirty years of service displayed. The officer drawdown occurs over a longer period of time and, while there is a pronounced reduction at the end of the twentieth year, it is not nearly as severe as in the enlisted force. Figures XI-3 and XI-4 show the same force; however, in these portrayals the survival rates necessary to meet the Service developed profiles are displayed. The enlisted force is drawn down, on average, 60% by the fifth year of service while officers do not reach this level until the tenth year of service. As is evident, the Air Force tends to retain more personnel for longer periods of time, while the Marine Corps tends to draw down more rapidly but then retain a more stable force over the remainder of the thirty year period. The Army and Navy react in very similar patterns in both the officer and enlisted profiles, i.e., for every 1,000 enlisted who enter these two Services, approximately 110 will become retirement eligible. This is slightly higher than is currently being experienced. The force profile depicted in these figures form the basis against which all other force profiles were measured or compared.

Tables XI-1 through XI-10 show the comparisons of the six force structures at the DoD aggregate levels and by the individual military Services. During the analyses of retirement options, the Fifth QRMCD determined that, for analytical purposes, the critical reference points were: (a) annual accessions, (b) years-of-service 5 through 30 which constitute the career force and (c) years-of-service 21 through 30 and 31+, both of which represent the senior supervisory force from which

our experienced leadership is drawn. The similarity between the baseline force for each Service and the projected FY82 force structure indicate that the retention levels achieved in FY82 must be sustained to approximate the baseline forces designed by each Service. The career force structure profiles (5-30+ YOS) for the DoD aggregate and each Service are displayed in Figures XI-5 through XI-14. These profiles graphically display projections for each of the forces and allow a comparison to be made among them. They also display the many peaks and valleys of the FY82 actual strength inventory by YOS.

Unfortunately, the actual manpower inventory and force profile for any given year does not look like the desired force profiles. The reasons for this lie at the heart of why Service manpower force management is so unique and difficult, and why it takes a measure of planning, insight and experienced judgment well beyond that required in any civilian public or private organization. The fundamental reason is that each Service manpower and personnel system is essentially a "closed system" in which lateral entry of non-prior service personnel is rarely utilized. This is an area where many civilian "personnel experts" take issue with Service force management policies and resultant costs. However, the historical evidence within the profession of arms supports the requirement of the "closed system" for the acquisition, development and maintenance of a properly trained and experienced force of careerists.

The major fluctuations are a direct result of changing manpower ceilings following armed conflicts (Vietnam) where it was necessary to reduce the force rapidly. This required encouraging and letting experienced personnel to separate or retire and also reducing accessions below that required to maintain a smooth continuous flow in future years. Further aggravating these fluctuations are changes in the national economy and civilian employment opportunities, societal attitudes about the Service, and the continued sawtooth pattern of maintaining Service compensation at the "right" comparable and/or competitive levels as perceived by the servicemembers themselves. The recent Presidential Military Manpower Task Force reinforced that aspect in stating the need to adequately fund the Service basic pay, allowances and special pays if we are to be able to maintain our required force size. This degree of fluctuation is greatly amplified as one breaks the aggregate force into the over 1,500 different skills, ratings, and codes that comprise the total manpower needs. Further, the different rates of retention among these different skills, together with a continuously changing character of the mix required to keep pace with the introduction of new technology and associated weapon systems, add yet another dimension of difficulty.

Tables XI-1 through XI-13 and Figures XI-1 through XI-14 appear on pages XI-5 through XI-24.

Table XI-1
DoD Officer Force Structure

CASE	<u>1</u> BASE	<u>2</u> HI 3	<u>3</u> 82ACTL	<u>4</u> 82ACOL	<u>5</u> CURR	<u>6</u> B-LINE
ACCESSIONS	25.775	26.075	20.068	20.626	22.277	20.405
DELTA(BASE)	0.0	0.300	-5.707	-5.149	-3.498	-5.370
YOS 1 TO 4						
STRENGTH	93.764	94.749	82.485	77.260	84.736	76.672
PERCENT	0.0	0.0105	-0.1203	-0.1760	-0.0963	-0.1823
DELTA(BASE)	0.0	0.985	-11.279	-16.504	-9.028	-17.092
YOS 5 TO 30+						
STRENGTH	176.137	175.151	173.086	190.973	184.738	192.313
PERCENT	0.0	-0.0056	-0.0173	0.0842	0.0488	0.0918
DELTA(BASE)	0.0	-0.986	-3.051	14.836	8.601	16.176
YOS 5 TO 20						
STRENGTH	155.170	154.835	151.232	163.707	162.020	168.764
PERCENT	0.0	-0.0022	-0.0254	0.0550	0.0441	0.0876
DELTA(BASE)	0.0	-0.335	-3.938	8.537	6.850	13.594
YOS 5 TO 10						
STRENGTH	81.398	81.539	73.238	77.791	81.552	82.997
PERCENT	0.0	0.0017	-0.1002	-0.0443	0.0019	0.0196
DELTA(BASE)	0.0	0.141	-8.160	-3.607	0.154	1.599
YOS 11 TO 20						
STRENGTH	73.772	73.296	77.994	85.916	80.468	85.767
PERCENT	0.0	-0.0065	0.0572	0.1646	0.0908	0.1626
DELTA(BASE)	0.0	-0.476	4.222	12.144	6.696	11.995
YOS 16 TO 20						
STRENGTH	31.893	31.692	34.408	38.708	35.407	37.609
PERCENT	0.0	-0.0063	0.0789	0.2137	0.1102	0.1792
DELTA(BASE)	0.0	-0.201	2.515	6.815	3.514	5.716
YOS 21 TO 30						
STRENGTH	20.444	19.396	21.577	26.850	22.429	23.379
PERCENT	0.0	-0.0513	0.0554	0.3133	0.0971	0.1436
DELTA(BASE)	0.0	-1.048	1.133	6.406	1.985	2.935
YOS 31+						
STRENGTH	0.523	0.920	0.277	0.416	0.289	0.170
PERCENT	0.0	0.7591	-0.4704	-0.2046	-0.4474	-0.6750
DELTA(BASE)	0.0	0.397	-0.246	-0.107	-0.234	-0.353

Table XI-2
DoD Enlisted Force Structure

CASE	<u>1</u> BASE	<u>2</u> HI 3	<u>3</u> 82ACTL	<u>4</u> 82ACOL	<u>5</u> CURR	<u>6</u> B-LINE
ACCESSIONS	332.548	336.013	267.770	274.904	310.836	288.265
DELTA(BASE)	0.0	3.465	-64.778	-57.644	-21.712	-44.283
YOS 1 TO 4						
STRENGTH	1030.729	1041.617	973.920	886.810	1016.357	938.253
PERCENT	0.0	0.0106	-0.0551	-0.1396	-0.0139	-0.0897
DELTA(BASE)	0.0	10.888	-56.809	-143.920	-14.373	-92.476
YOS 5 TO 30+						
STRENGTH	774.004	763.125	826.347	919.921	789.106	869.795
PERCENT	0.0	-0.0141	0.0676	0.1885	0.0195	0.1238
DELTA(BASE)	0.0	-10.879	52.343	145.917	15.102	95.791
YOS 5 TO 20						
STRENGTH	718.744	719.732	765.371	834.089	732.285	811.576
PERCENT	0.0	0.0014	0.0649	0.1605	0.0188	0.1292
DELTA(BASE)	0.0	0.988	46.627	115.345	13.541	92.832
YOS 5 TO 10						
STRENGTH	389.129	391.171	467.226	425.115	407.255	437.145
PERCENT	0.0	0.0052	0.2007	0.0925	0.0466	0.1234
DELTA(BASE)	0.0	2.043	78.097	35.986	18.126	48.017
YOS 11 TO 20						
STRENGTH	329.616	328.561	298.146	408.975	325.031	374.432
PERCENT	0.0	-0.0032	-0.0955	0.2408	-0.0139	0.1360
DELTA(BASE)	0.0	-1.055	-31.470	79.359	-4.586	44.815
YOS 16 TO 20						
STRENGTH	152.188	151.428	119.092	191.145	147.483	163.842
PERCENT	0.0	-0.0050	-0.2175	0.2560	-0.0309	0.0766
DELTA(BASE)	0.0	-0.760	-33.096	38.957	-4.705	11.654
YOS 21 TO 30						
STRENGTH	54.888	43.000	60.401	85.834	56.418	57.877
PERCENT	0.0	-0.2166	0.1004	0.5638	0.0279	0.0545
DELTA(BASE)	0.0	-11.888	5.513	30.946	1.530	2.989
YOS 31+						
STRENGTH	0.374	0.395	0.577	0.0	0.405	0.343
PERCENT	0.0	0.0562	0.5428	-1.0000	0.0829	-0.0829
DELTA(BASE)	0.0	0.021	0.203	-0.374	0.031	-0.031

Table XI-3
Army Officer Force Structure

CASE	1 BASE	2 HI 3	3 82ACTL	4 82ACOL	5 CURR	6 B-LINE
ACCESSIONS	9.302	9.403	7.672	7.590	7.732	7.233
DELTA(BASE)	0.0	0.101	-1.630	-1.712	-1.570	-2.069
YOS 1 TO 4						
STRENGTH	32.963	33.275	29.338	27.240	29.193	25.738
PERCENT	0.0	0.0095	-0.1100	-0.1736	-0.1144	-0.2192
DELTA(BASE)	0.0	0.312	-3.625	-5.723	-3.770	-7.225
YOS 5 TO 30+						
STRENGTH	55.912	55.598	59.266	61.658	59.680	62.501
PERCENT	0.0	-0.0056	0.0600	0.1028	0.0674	0.1178
DELTA(BASE)	0.0	-0.314	3.354	5.746	3.768	6.589
YOS 5 TO 20						
STRENGTH	49.438	49.323	51.800	52.488	52.655	54.011
PERCENT	0.0	-0.0023	0.0478	0.0617	0.0651	0.0925
DELTA(BASE)	0.0	-0.115	2.362	3.050	3.217	4.573
YOS 5 TO 10						
STRENGTH	26.576	26.579	23.800	25.432	26.771	27.243
PERCENT	0.0	0.0001	-0.1045	-0.0430	0.0073	0.0251
DELTA(BASE)	0.0	0.003	-2.776	-1.144	0.195	0.667
YOS 11 TO 20						
STRENGTH	22.862	22.744	28.000	27.056	25.884	26.768
PERCENT	0.0	-0.0052	0.2247	0.1834	0.1322	0.1709
DELTA(BASE)	0.0	-0.118	5.138	4.194	3.022	3.906
YOS 16 TO 20						
STRENGTH	9.315	9.259	11.813	11.669	10.705	11.010
PERCENT	0.0	-0.0060	0.2682	0.2527	0.1492	0.1820
DELTA(BASE)	0.0	-0.056	2.498	2.354	1.390	1.695
YOS 21 TO 30						
STRENGTH	6.298	5.977	7.466	9.013	7.023	8.475
PERCENT	0.0	-0.0510	0.1855	0.4311	0.1151	0.3457
DELTA(BASE)	0.0	-0.321	1.168	2.715	0.725	2.177
YOS 31+						
STRENGTH	0.176	0.298	0.0	0.157	0.002	0.015
PERCENT	0.0	0.6932	-1.0000	-0.1080	-0.9886	-0.9148
DELTA(BASE)	0.0	0.122	-0.176	-0.019	-0.174	-0.161

Table XI-4
Army Enlisted Force Structure

CASE	1 BASE	2 HI 3	3 82ACTL	4 82ACOL	5 CURR	6 B-LINE
ACCESSIONS	135.220	136.652	107.689	110.463	132.357	124.342
DELTA(BASE)	0.0	1.432	-27.531	-24.757	-2.863	-10.878
YOS 1 TO 4						
STRENGTH	390.752	394.863	372.136	336.486	406.206	381.997
PERCENT	0.0	0.0105	-0.0476	-0.1389	0.0395	-0.0224
DELTA(BASE)	0.0	4.111	-18.616	-54.266	15.454	-8.755
YOS 5 TO 30+						
STRENGTH	286.611	282.500	300.405	340.873	271.155	297.999
PERCENT	0.0	-0.0143	0.0481	0.1893	-0.0539	0.0397
DELTA(BASE)	0.0	-4.110	13.795	54.262	-15.456	11.388
YOS 5 TO 20						
STRENGTH	266.764	267.395	282.536	313.695	253.761	282.421
PERCENT	0.0	0.0024	0.0591	0.1759	-0.0487	0.0587
DELTA(BASE)	0.0	0.631	15.772	46.931	-13.003	15.657
YOS 5 TO 10						
STRENGTH	147.277	148.157	184.485	162.851	142.574	160.387
PERCENT	0.0	0.0060	0.2526	0.1057	-0.0319	0.0890
DELTA(BASE)	0.0	0.880	37.208	15.574	-4.703	13.110
YOS 11 TO 20						
STRENGTH	119.487	119.238	98.051	150.845	111.187	122.034
PERCENT	0.0	-0.0021	-0.1794	0.2624	-0.0695	0.0213
DELTA(BASE)	0.0	-0.249	-21.436	31.358	-8.300	2.547
YOS 16 TO 20						
STRENGTH	54.420	54.195	35.773	69.327	49.336	51.845
PERCENT	0.0	-0.0041	-0.3426	0.2739	-0.0934	-0.0473
DELTA(BASE)	0.0	-0.225	-18.647	14.907	-5.084	-2.575
YOS 21 TO 30						
STRENGTH	19.777	15.055	17.871	27.179	17.395	15.580
PERCENT	0.0	-0.2388	-0.0964	0.3743	-0.1204	-0.2122
DELTA(BASE)	0.0	-4.722	-1.906	7.402	-2.382	-4.197
YOS 31+						
STRENGTH	0.071	0.052	0.0	0.0	0.0	0.0
PERCENT	0.0	-0.2676	-1.0000	-1.0000	-1.0000	-1.0000
DELTA(BASE)	0.0	-0.019	-0.071	-0.071	-0.071	-0.071

Table XI-5
Navy Officer Force Structure

CASE	<u>1</u> BASE	<u>2</u> HI 3	<u>3</u> 82ACTL	<u>4</u> 82ACOL	<u>5</u> CURR	<u>6</u> B-LINE
ACCESSIONS	6.114	6.146	4.974	4.906	4.658	4.572
DELTA(BASE)	0.0	0.032	-1.140	-1.208	-1.456	-1.542
YOS 1 TO 4						
STRENGTH	22.425	22.519	19.971	18.677	17.600	17.844
PERCENT	0.0	0.0042	-0.1094	-0.1671	-0.2152	-0.2043
DELTA(BASE)	0.0	0.094	-2.454	-3.748	-4.825	-4.581
YOS 5 TO 30+						
STRENGTH	39.829	39.736	43.024	42.295	44.657	44.562
PERCENT	0.0	-0.0023	0.0802	0.0619	0.1212	0.1188
DELTA(BASE)	0.0	-0.093	3.195	2.466	4.828	4.733
YOS 5 TO 20						
STRENGTH	34.619	34.402	37.368	36.510	38.507	38.603
PERCENT	0.0	-0.0063	0.0794	0.0546	0.1123	0.1151
DELTA(BASE)	0.0	-0.217	2.749	1.891	3.888	3.984
YOS 5 TO 10						
STRENGTH	18.775	18.712	21.087	17.995	20.166	20.697
PERCENT	0.0	-0.0034	0.1231	-0.0415	0.0741	0.1024
DELTA(BASE)	0.0	-0.063	2.312	-0.780	1.391	1.922
YOS 11 TO 20						
STRENGTH	15.844	15.690	16.281	18.515	18.341	17.906
PERCENT	0.0	-0.0097	0.0276	0.1686	0.1576	0.1301
DELTA(BASE)	0.0	-0.154	0.437	2.671	2.497	2.062
YOS 16 TO 20						
STRENGTH	7.092	7.034	6.774	8.350	7.846	7.997
PERCENT	0.0	-0.0082	-0.0448	0.1774	0.1063	0.1276
DELTA(BASE)	0.0	-0.058	-0.318	1.258	0.754	0.905
YOS 21 TO 30						
STRENGTH	5.002	5.003	5.410	5.676	5.863	5.804
PERCENT	0.0	0.0002	0.0816	0.1347	0.1721	0.1603
DELTA(BASE)	0.0	0.001	0.408	0.674	0.861	0.802
YOS 31+						
STRENGTH	0.208	0.331	0.246	0.109	0.287	0.155
PERCENT	0.0	0.5913	0.1827	-0.4760	0.3798	-0.2548
DELTA(BASE)	0.0	0.123	0.038	-0.099	0.079	-0.053

Table XI-6
Navy Enlisted Force Structure

CASE	1 BASE	2 HI 3	3 82ACTL	4 82ACOL	5 CURR	6 B-LINE
ACCESSIONS	88.477	89.168	68.969	74.063	78.076	70.045
DELTA(BASE)	0.0	0.691	-19.508	-14.414	-10.401	-18.432
YOS 1 TO 4						
STRENGTH	284.500	286.763	261.517	245.625	251.901	238.383
PERCENT	0.0	0.0080	-0.0808	-0.1366	-0.1146	-0.1621
DELTA(BASE)	0.0	2.263	-22.983	-38.875	-32.599	-46.117
YOS 5 TO 30+						
STRENGTH	195.162	192.903	218.162	234.037	228.124	241.595
PERCENT	0.0	-0.0116	0.1179	0.1992	0.1689	0.2379
DELTA(BASE)	0.0	-2.259	23.000	38.875	32.962	46.433
YOS 5 TO 20						
STRENGTH	183.441	183.201	203.621	213.958	210.499	226.819
PERCENT	0.0	-0.0013	0.1100	0.1664	0.1475	0.2365
DELTA(BASE)	0.0	-0.240	20.180	30.517	27.058	43.378
YOS 5 TO 10						
STRENGTH	102.624	102.913	125.595	112.190	112.923	122.810
PERCENT	0.0	0.0028	0.2238	0.0932	0.1004	0.1967
DELTA(BASE)	0.0	0.289	22.971	9.566	10.299	20.186
YOS 11 TO 20						
STRENGTH	80.817	80.288	78.026	101.768	97.576	104.009
PERCENT	0.0	-0.0065	-0.0345	0.2592	0.2074	0.2870
DELTA(BASE)	0.0	-0.529	-2.791	20.951	16.759	23.192
YOS 16 TO 20						
STRENGTH	36.442	36.127	32.184	47.236	44.181	46.856
PERCENT	0.0	-0.0086	-0.1168	0.2963	0.2124	0.2858
DELTA(BASE)	0.0	-0.315	-4.258	10.796	7.739	10.414
YOS 21 TO 30						
STRENGTH	11.546	9.523	14.290	20.079	17.261	14.474
PERCENT	0.0	-0.1752	0.2377	0.7390	0.4950	0.2536
DELTA(BASE)	0.0	-2.023	2.744	8.533	5.715	2.928
YOS 31+						
STRENGTH	0.175	0.179	0.251	0.0	0.364	0.302
PERCENT	0.0	0.0229	0.4343	-1.0000	1.0800	0.7257
DELTA(BASE)	0.0	0.004	0.076	-0.175	0.189	0.127

Table XI-7
USMC Officer Force Structure

CASE	1 BASE	2 HI 3	3 82ACTL	4 82ACOL	5 CURR	6 B-LINE
ACCESSIONS	1.739	1.762	1.731	1.343	1.682	1.682
DELTA(BASE)	0.0	0.023	-0.008	-0.396	-0.057	-0.057
YOS 1 TO 4						
STRENGTH	6.474	6.552	6.201	5.131	6.452	6.452
PERCENT	0.0	0.0120	-0.0422	-0.2074	-0.0034	-0.0034
DELTA(BASE)	0.0	0.078	-0.273	-1.343	-0.022	-0.022
YOS 5 TO 20						
STRENGTH	9.772	9.759	10.342	10.467	9.345	9.345
PERCENT	0.0	-0.0013	0.0583	0.0711	-0.0437	-0.0437
DELTA(BASE)	0.0	-0.013	0.570	0.695	-0.427	-0.427
YOS 5 TO 30+						
STRENGTH	10.830	10.754	11.453	11.733	10.423	10.423
PERCENT	0.0	-0.0070	0.0575	0.0834	-0.0376	-0.0376
DELTA(BASE)	0.0	-0.076	0.623	0.903	-0.407	-0.407
YOS 5 TO 10						
STRENGTH	5.441	5.446	6.216	5.221	5.285	5.285
PERCENT	0.0	0.0009	0.1424	-0.0404	-0.0287	-0.0287
DELTA(BASE)	0.0	0.005	0.775	-0.220	-0.156	-0.156
YOS 11 TO 20						
STRENGTH	4.331	4.313	4.126	5.246	4.060	4.060
PERCENT	0.0	-0.0042	-0.0473	0.2113	-0.0626	-0.0626
DELTA(BASE)	0.0	-0.018	-0.205	0.915	-0.271	-0.271
YOS 16 TO 20						
STRENGTH	1.813	1.808	1.634	2.311	1.717	1.717
PERCENT	0.0	-0.0028	-0.0987	0.2747	-0.0530	-0.0530
DELTA(BASE)	0.0	-0.005	-0.179	0.498	-0.096	-0.096
YOS 21 TO 30						
STRENGTH	1.028	0.946	1.101	1.249	1.078	1.078
PERCENT	0.0	-0.0798	0.0710	0.2150	0.0486	0.0486
DELTA(BASE)	0.0	-0.082	0.073	0.221	0.050	0.050
YOS 31+						
STRENGTH	0.030	0.049	0.010	0.017	0.0	0.0
PERCENT	0.0	0.6333	-0.6667	-0.4333	-1.0000	-1.0000
DELTA(BASE)	0.0	0.019	-0.020	-0.013	-0.030	-0.030

Table XI-8
USMC Enlisted Force Structure

CASE	1 BASE	2 HI 3	3 82ACTL	4 82ACOL	5 CURR	6 B-LINE
ACCESSIONS	38.804	39.165	30.086	31.224	28.916	32.135
DELTA(BASE)	0.0	0.361	-8.718	-7.580	-9.888	-6.669
YOS 1 TO 4						
STRENGTH	120.358	121.480	115.698	101.075	107.626	104.942
PERCENT	0.0	0.0093	-0.0387	-0.1602	-0.1058	-0.1281
DELTA(BASE)	0.0	1.122	-4.660	-19.283	-12.732	-15.416
YOS 5 TO 30+						
STRENGTH	52.712	51.590	57.707	71.992	65.806	68.486
PERCENT	0.0	-0.0213	0.0548	0.3658	0.2484	0.2993
DELTA(BASE)	0.0	-1.122	4.995	19.280	13.094	15.774
YOS 5 TO 20						
STRENGTH	49.212	48.457	54.597	64.358	62.759	65.450
PERCENT	0.0	-0.0153	0.1094	0.3078	0.2753	0.3300
DELTA(BASE)	0.0	-0.755	5.385	15.146	13.547	16.238
YOS 5 TO 10						
STRENGTH	29.433	29.286	38.652	33.746	42.085	44.803
PERCENT	0.0	-0.0050	0.3132	0.1465	0.4299	0.5222
DELTA(BASE)	0.0	-0.147	9.219	4.313	12.652	15.370
YOS 11 TO 20						
STRENGTH	19.779	19.171	15.945	30.612	20.674	20.647
PERCENT	0.0	-0.0307	-0.1938	0.5477	0.0453	0.0439
DELTA(BASE)	0.0	-0.608	-3.834	10.833	0.895	0.868
YOS 16 TO 20						
STRENGTH	8.938	8.610	5.359	14.169	8.545	8.226
PERCENT	0.0	-0.0367	-0.4004	0.5853	-0.0440	-0.0797
DELTA(BASE)	0.0	-0.328	-3.579	5.231	-0.393	-0.712
YOS 21 TO 30						
STRENGTH	3.446	3.072	3.042	7.634	3.006	2.995
PERCENT	0.0	-0.1085	-0.1172	1.2153	-0.1277	-0.1309
DELTA(BASE)	0.0	-0.374	-0.404	4.188	-0.440	-0.451
YOS 31+						
STRENGTH	0.054	0.061	0.068	0.0	0.041	0.041
PERCENT	0.0	0.1296	0.2593	-1.0000	-0.2407	-0.2407
DELTA(BASE)	0.0	0.007	0.014	-0.054	-0.013	-0.013

Table XI-9
USAF Officer Force Structure

CASE	<u>1</u> BASE	<u>2</u> HI 3	<u>3</u> 82ACTL	<u>4</u> 82ACOL	<u>5</u> CURR	<u>6</u> B-LINE
ACCESSIONS	8.620	8.764	5.691	6.787	8.205	6.918
DELTA(BASE)	0.0	0.144	-2.929	-1.833	-0.415	-1.702
YOS 1 TO 4						
STRENGTH	31.902	32.403	26.975	26.212	31.491	26.638
PERCENT	0.0	0.0157	-0.1544	-0.1784	-0.0129	-0.1650
DELTA(BASE)	0.0	0.501	-4.927	-5.690	-0.411	-5.264
YOS 5 TO 30+						
STRENGTH	69.566	69.063	59.343	75.287	69.978	74.827
PERCENT	0.0	-0.0072	-0.1470	0.0822	0.0059	0.0756
DELTA(BASE)	0.0	-0.503	-10.223	5.721	0.412	5.261
YOS 5 TO 20						
STRENGTH	61.341	61.351	51.722	64.242	61.513	66.805
PERCENT	0.0	0.0002	-0.1568	0.0473	0.0028	0.0891
DELTA(BASE)	0.0	0.010	-9.619	2.901	0.172	5.464
YOS 5 TO 10						
STRENGTH	30.606	30.802	22.135	29.143	29.330	29.772
PERCENT	0.0	0.0064	-0.2768	-0.0478	-0.0417	-0.0272
DELTA(BASE)	0.0	0.196	-8.471	-1.463	-1.276	-0.834
YOS 11 TO 20						
STRENGTH	30.735	30.549	29.587	35.099	32.183	37.033
PERCENT	0.0	-0.0061	-0.0374	0.1420	0.0471	0.2049
DELTA(BASE)	0.0	-0.186	-1.148	4.364	1.448	6.298
YOS 16 TO 20						
STRENGTH	13.673	13.591	14.187	16.378	15.139	16.885
PERCENT	0.0	-0.0060	0.0376	0.1978	0.1072	0.2349
DELTA(BASE)	0.0	-0.082	0.514	2.705	1.466	3.212
YOS 21 TO 30						
STRENGTH	8.116	7.470	7.600	10.912	8.465	8.022
PERCENT	0.0	-0.0796	-0.0636	0.3445	0.0430	-0.0116
DELTA(BASE)	0.0	-0.646	-0.516	2.796	0.349	-0.094
YOS 31+						
STRENGTH	0.109	0.242	0.021	0.133	0.0	0.0
PERCENT	0.0	1.2202	-0.8073	0.2202	-1.0000	-1.0000
DELTA(BASE)	0.0	0.133	-0.088	0.024	-0.109	-0.109

Table XI-10
USAF Enlisted Force Structure

CASE	1 BASE	2 HI 3	3 82ACTL	4 82ACOL	5 CURR	6 B-LINE
ACCESSIONS	70.047	71.028	61.026	59.154	71.487	61.743
DELTA(BASE)	0.0	0.981	-9.021	-10.893	1.440	-8.304
YOS 1 TO 4						
STRENGTH	235.120	238.512	224.570	203.624	250.624	212.932
PERCENT	0.0	0.0144	-0.0449	-0.1340	0.0659	-0.0944
DELTA(BASE)	0.0	3.392	-10.550	-31.496	15.504	-22.188
YOS 5 TO 30+						
STRENGTH	239.522	236.134	250.075	273.020	224.023	261.715
PERCENT	0.0	-0.0141	0.0441	0.1399	-0.0647	0.0927
DELTA(BASE)	0.0	-3.388	10.553	33.498	-15.499	22.193
YOS 5 TO 20						
STRENGTH	219.329	220.681	224.619	242.079	205.267	236.888
PERCENT	0.0	0.0062	0.0241	0.1037	-0.0641	0.0801
DELTA(BASE)	0.0	1.352	5.290	22.750	-14.062	17.559
YOS 5 TO 10						
STRENGTH	109.795	110.816	118.494	116.328	109.673	109.146
PERCENT	0.0	0.0093	0.0792	0.0595	-0.0011	-0.0059
DELTA(BASE)	0.0	1.021	8.699	6.533	-0.122	-0.649
YOS 11 TO 20						
STRENGTH	109.534	109.865	106.125	125.751	95.594	127.742
PERCENT	0.0	0.0030	-0.0311	0.1481	-0.1273	0.1662
DELTA(BASE)	0.0	0.331	-3.409	16.217	-13.940	18.208
YOS 16 TO 20						
STRENGTH	52.388	52.496	45.776	60.411	45.421	56.915
PERCENT	0.0	0.0021	-0.1262	0.1531	-0.1330	0.0864
DELTA(BASE)	0.0	0.108	-6.612	8.023	-6.967	4.527
YOS 21 TO 30						
STRENGTH	20.119	15.350	25.198	30.942	18.756	24.828
PERCENT	0.0	-0.2370	0.2524	0.5379	-0.0677	0.2341
DELTA(BASE)	0.0	-4.769	5.079	10.823	-1.363	4.709
YOS 31+						
STRENGTH	0.074	0.103	0.258	0.0	0.0	0.0
PERCENT	0.0	0.3919	2.4865	-1.0000	-1.0000	-1.0000
DELTA(BASE)	0.0	0.029	0.184	-0.074	-0.074	-0.074

Table XI-11
Steady-State 7-Year Average
Service Forces -- w/o HI-3

	ARMY	NAVY	MARINES	AIR FORCE	DoD
<u>OFFICERS</u>					
ACCESSIONS	9,302	6,114	1,739	8,602	25,775
CAREER FORCE	55,912	39,829	10,830	69,566	176,137
(5-30+ YOS)	*(63%)	(64%)	(63%)	(69%)	(65%)
EARLY/MID CAREER	49,438	34,619	9,772	61,341	155,107
(5-20 YOS)					
LATE CAREER	6,298	5,002	1,028	8,116	20,444
(21-30 YOS)					
31+ YOS	176	208	30	109	523
TOTAL	88,874	62,255	17,303	101,467	269,899
<u>ENLISTED</u>					
ACCESSIONS	135,220	88,477	38,804	70,047	332,548
CAREER FORCE	286,610	195,159	52,711	239,522	774,002
(5-30+ YOS)	(42%)	(41%)	(30%)	(52%)	(43%)
EARLY/MID CAREER	266,762	183,438	49,211	219,329	718,740
(5-20 YOS)					
LATE CAREER	19,777	11,546	3,446	20,119	54,888
(21-30 YOS)					
31+ YOS	71	175	54	74	374
TOTAL	677,362	479,658	173,068	464,644	1,804,731

*Numbers in parentheses indicate percent of total population contained in the Career force.

Table XI-12
Steady-State 7-Year Average
Service Forces -- with HI-3

	ARMY	NAVY	MARINES	AIR FORCE	DoD
<u>OFFICERS</u>					
ACCESSIONS	9,403	6,146	1,762	8,764	26,075
CAREER FORCE	55,598	39,736	10,754	69,063	175,151
(5-30+ YOS)					
EARLY/MID CAREER	49,323	34,402	9,759	61,351	154,835
(5-20 YOS)					
LATE CAREER	5,977	5,003	946	7,470	19,396
(21-30 YOS)					
31+ YOS	298	331	49	242	920
TOTAL	88,874	62,255	17,303	101,467	269,896
<u>ENLISTED</u>					
ACCESSIONS	136,652	89,168	39,165	71,028	336,013
CAREER FORCE	282,500	192,903	51,590	236,134	763,125
(5-30+ YOS)					
EARLY/MID CAREER	267,395	183,201	48,457	220,681	719,732
(5-20 YOS)					
LATE CAREER	15,055	9,523	3,072	15,350	43,000
(21-30 YOS)					
31+ YOS	52	179	61	103	395
TOTAL	677,360	479,660	173,068	464,644	1,804,730

Table XI-13
Impact of HI-3 on
Service and DoD Steady-State Forces
(7-Year Average)

	ARMY	NAVY	MARINES	AIR FORCE	DOD
<u>OFFICERS</u>					
ACCESSIONS	+ 101 (+1.1)*	+ 32 (+ .4)	+ 23 (+1.2)	+ 144 (+1.7)	+ 300 (+1.2)
CAREER FORCE	- 314	- 93	- 76	- 503	- 986
(5-31+ YOS)	(- .6)	(- .2)	(-0.7)	(-0.7)	(- .6)
EARLY/MID CAREER	- 115	- 217	- 13	- 10	- 335
(5-20 YOS)	(- .2)	(- .6)	(-0.1)	(- .)	(- .2)
LATE CAREER	- 321	+ 1	- 82	- 646	-1048
(21-30 YOS)	(-5.1)	(- .)	(-7.9)	(-8.0)	(-5.1)
31+ YOS	+ 122 (+40.9)	+ 123 (+59.1)	+ 19 (+63.3)	+ 133 (+122.0)	+ 397 (+75.9)
<u>ENLISTED</u>					
ACCESSIONS	+ 1432 (+1.1)	+ 691 (+0.8)	+ 361 (+0.9)	+ 981 (+1.4)	+ 3465 (+1.0)
CAREER FORCE	- 4110	-2259	-1122	-3,388	-10,879
(5-30+ YOS)	(-1.5)	(-1.2)	(-2.1)	(-1.4)	(-1.4)
EARLY/MID CAREER	+ 631	- 240	- 755	+1352	+ 988
(5-20 YOS)	(+ .2)	(- .1)	(-1.5)	(+0.1)	(+ .1)
LATE CAREER	- 4722	- 2023	- 374	-4769	-11,888
(21-30 YOS)	(-23.8)	(-17.5)	(-10.9)	(-23.7)	(-21.6)
31+ YOS	- 19 (-26.8)	+ 4 (+ 2.3)	+ 7 (+ 13)	+ 29 (+39.2)	+ 21 (+ 5.6)

*Numbers in parentheses are percentage changes.

Figure XI-1
DOD OFFICER STRENGTH
STEADY STATE (7 YR AVG)

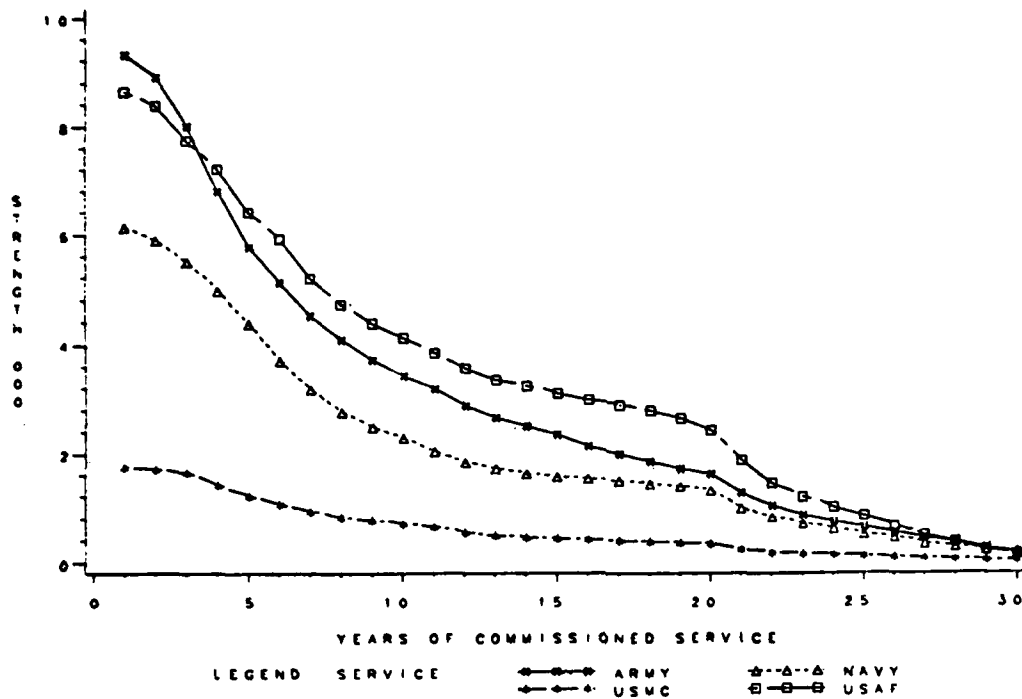


Figure XI-2
DOD ENLISTED STRENGTH
STEADY STATE (7 YR AVG)

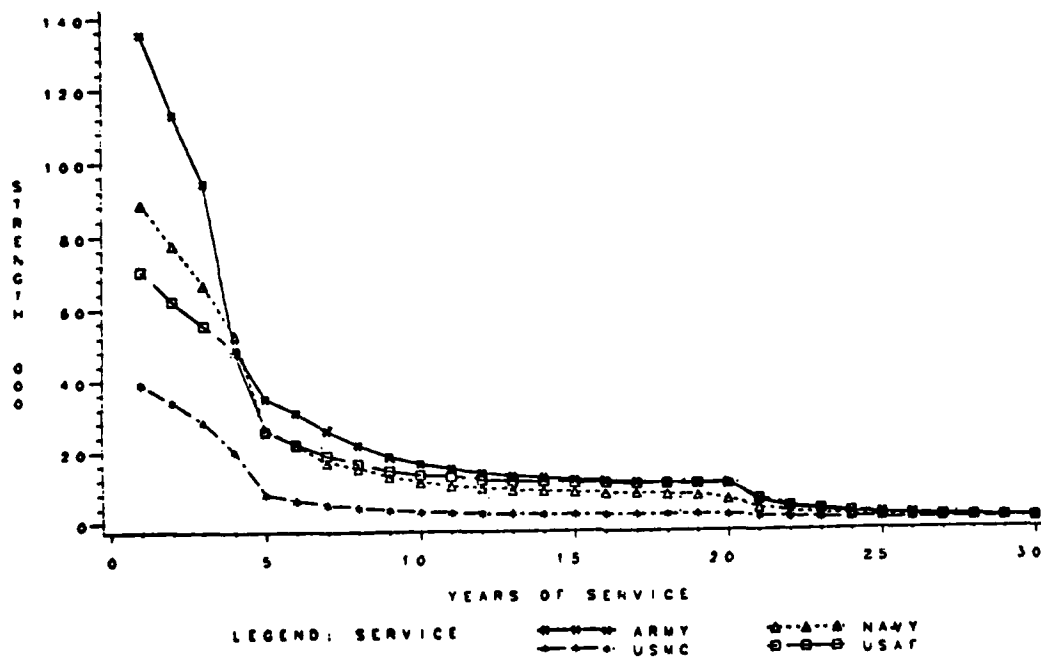


Figure XI-3
DOD OFFICER SURVIVAL RATE
STEADY STATE (7 YR AVG)

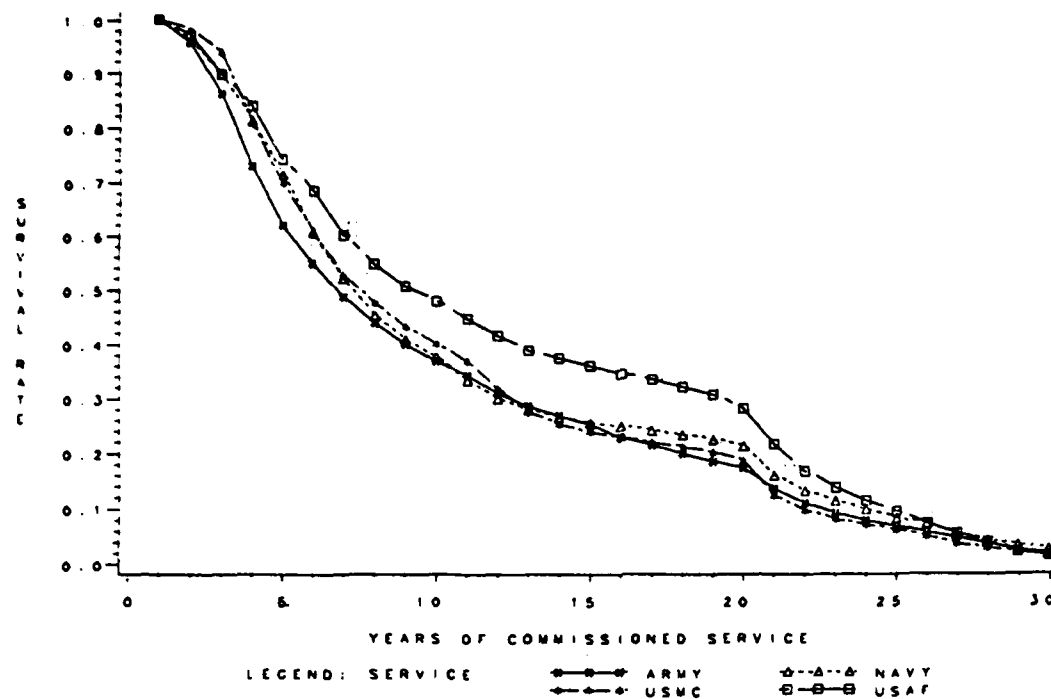
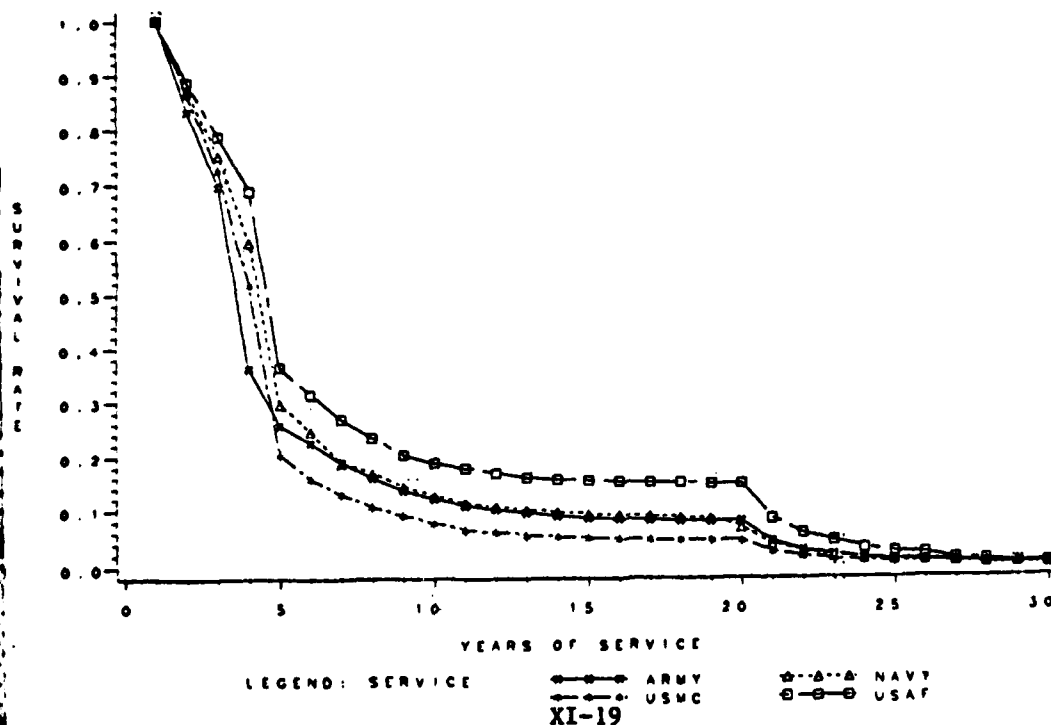


Figure XI-4
DOD ENLISTED SURVIVAL RATE
STEADY STATE (7 YR AVG)



XI-19

Figure XI-5
FORCE STRUCTURE
DOD OFFICER

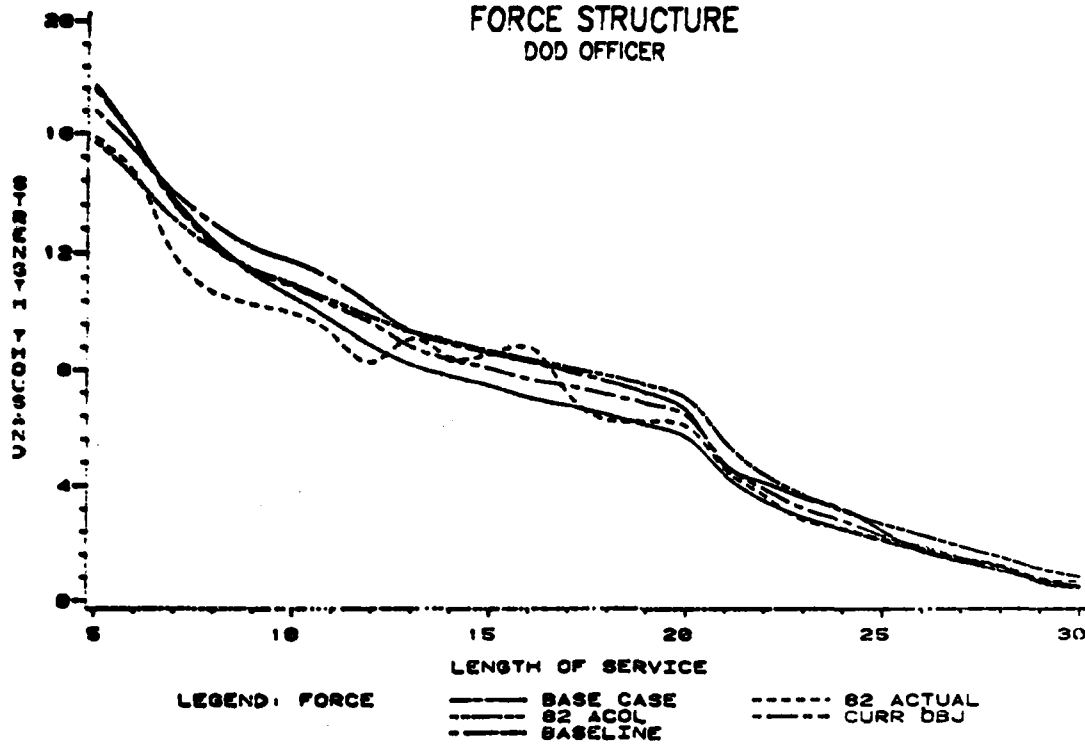
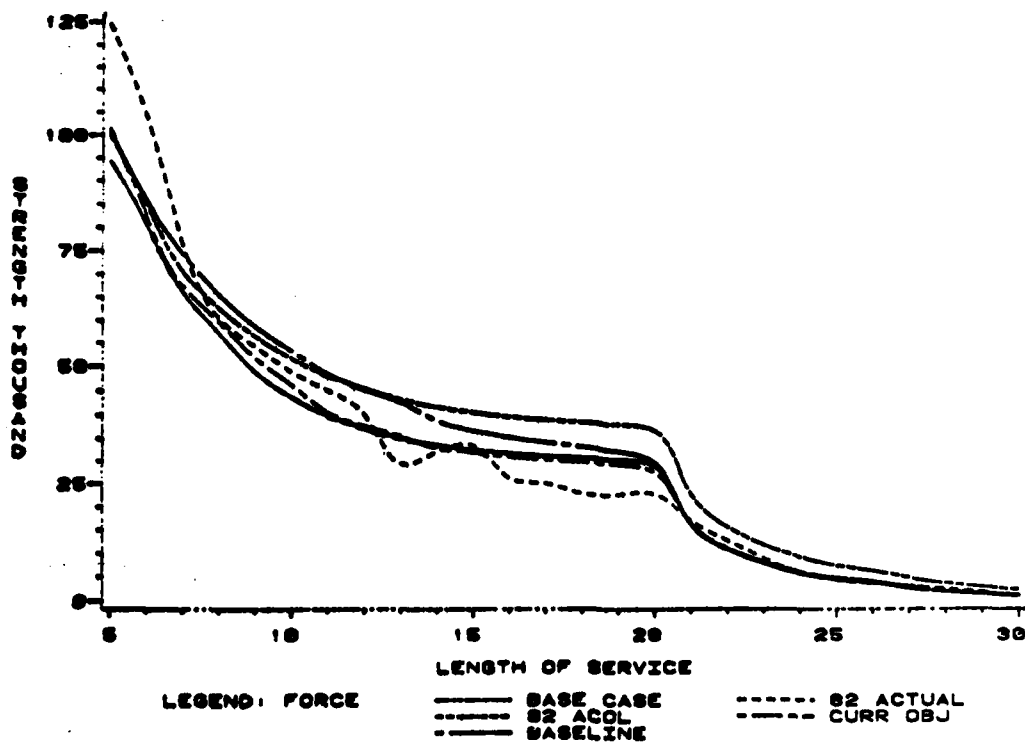


Figure XI-6
FORCE STRUCTURE
DOD ENLISTED



XI-20

Figure XI-7
FORCE STRUCTURE
ARMY OFFICER

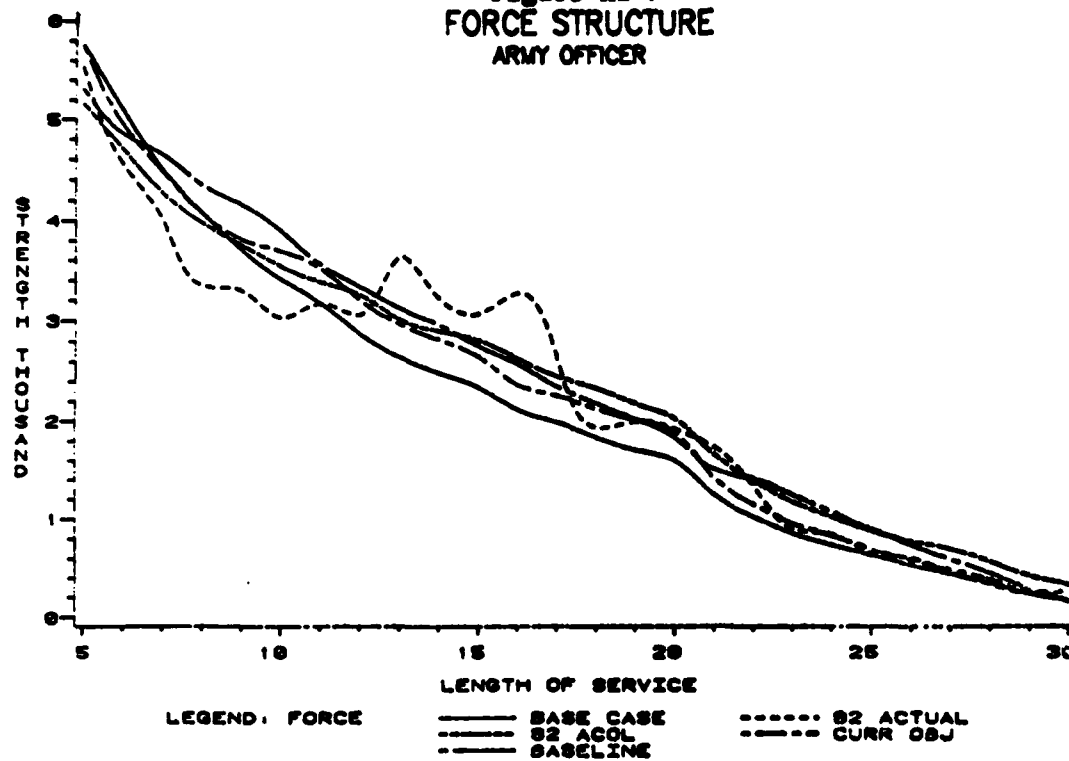
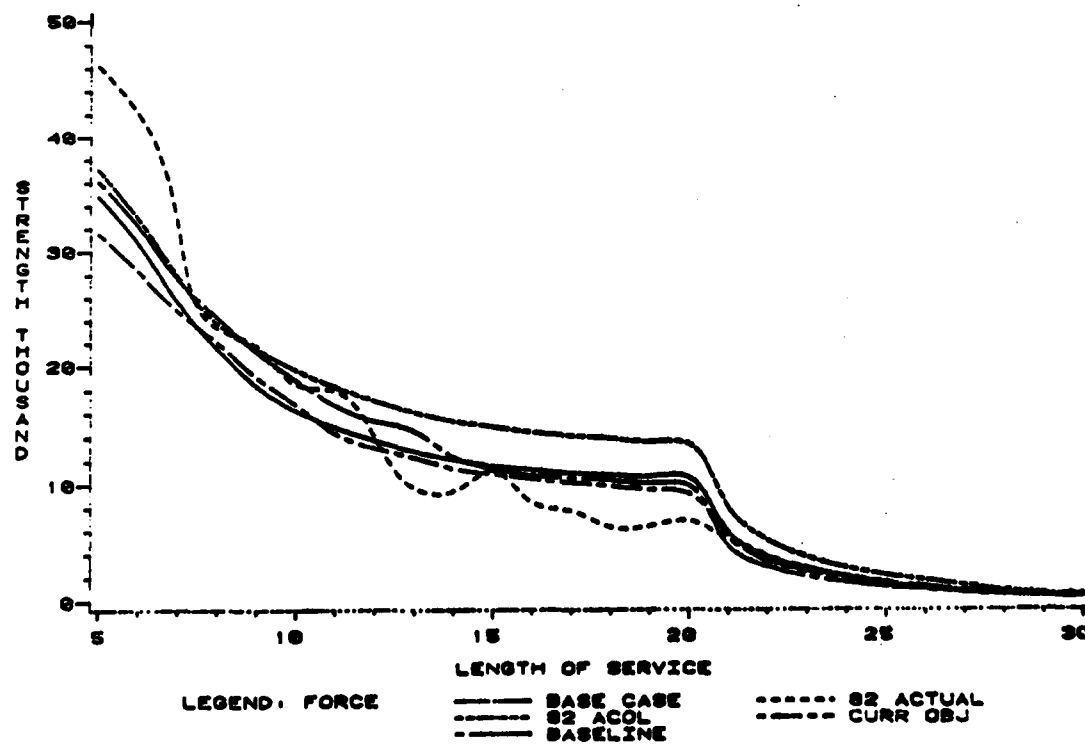


Figure XI-8
FORCE STRUCTURE
ARMY ENLISTED



XI-21

Figure XI-9
FORCE STRUCTURE
NAVY OFFICER

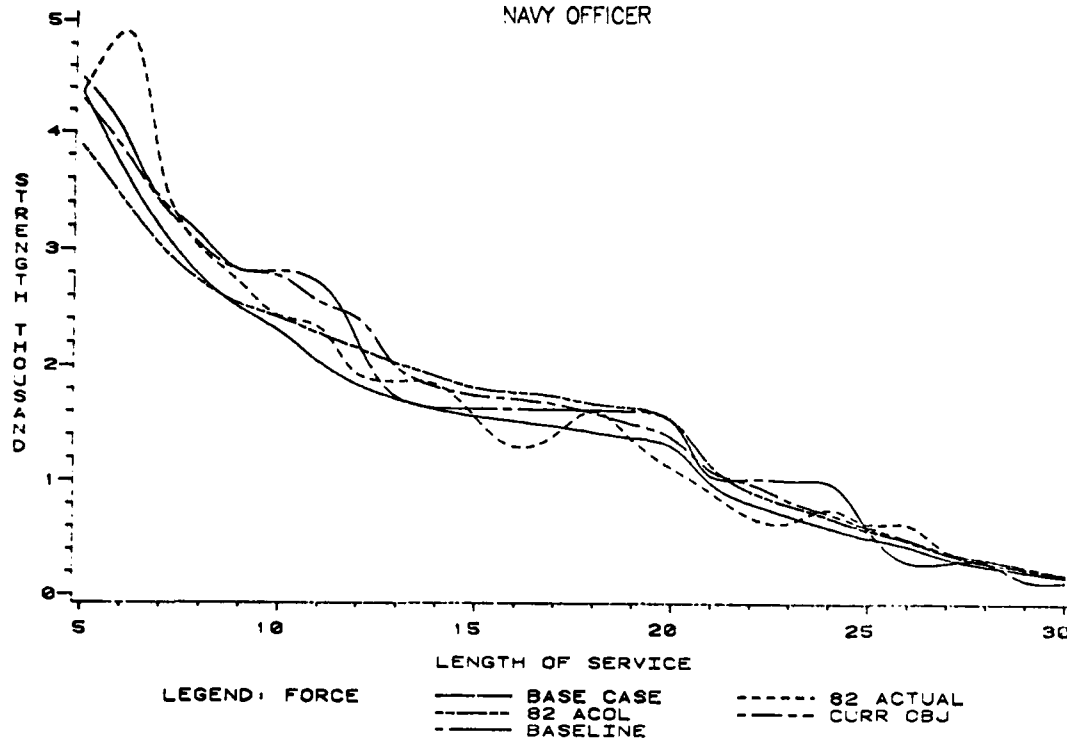
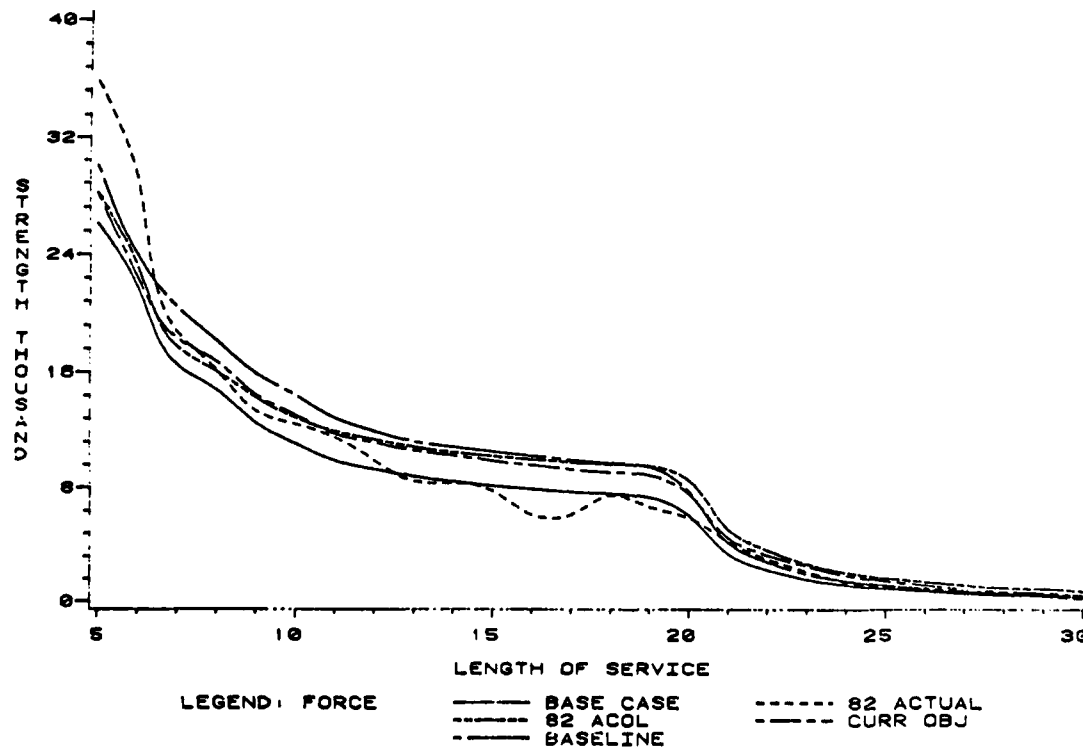


Figure XI-10
FORCE STRUCTURE
NAVY ENLISTED



XI-22

Figure XI-11
FORCE STRUCTURE
USMC OFFICER

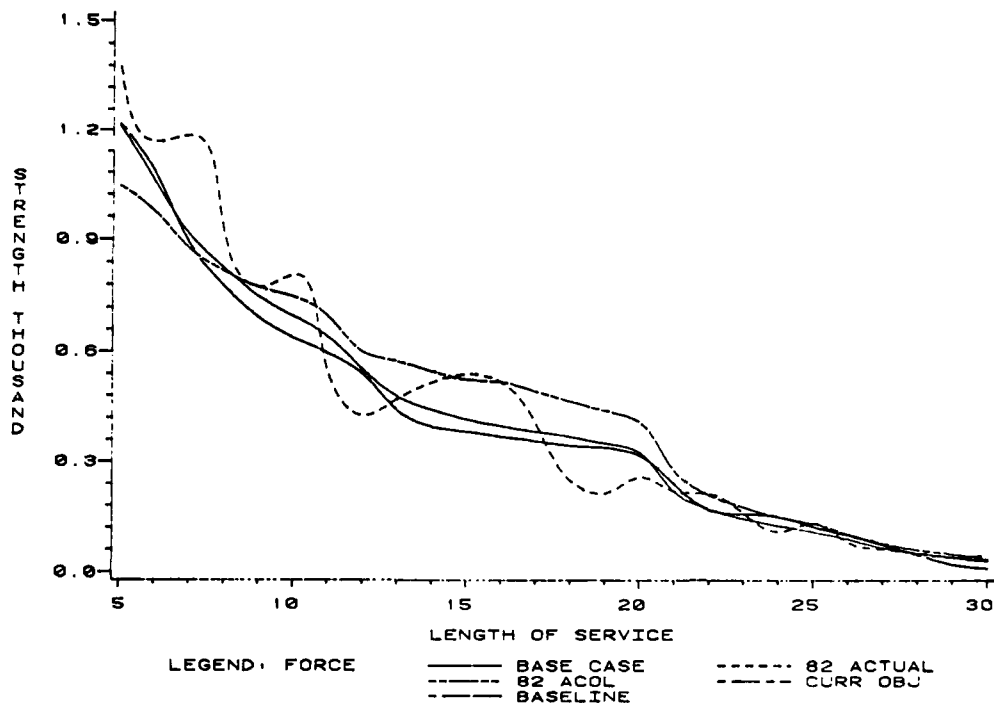
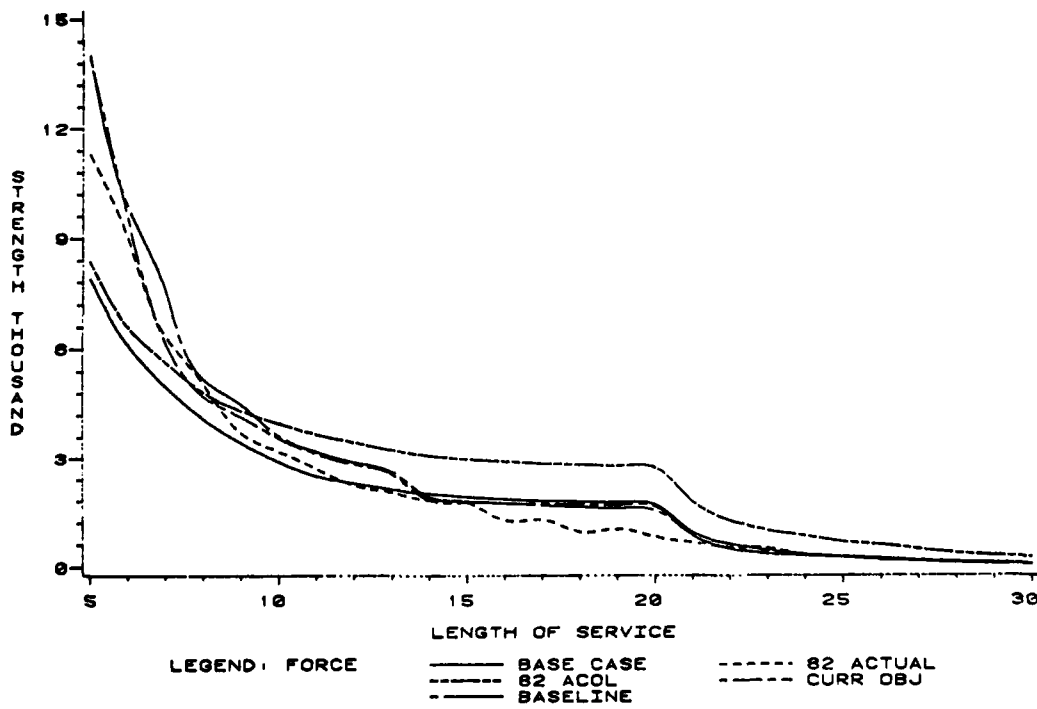


Figure XI-12
FORCE STRUCTURE
USMC ENLISTED



XI-23

Figure XI-13
FORCE STRUCTURE
USAF OFFICER

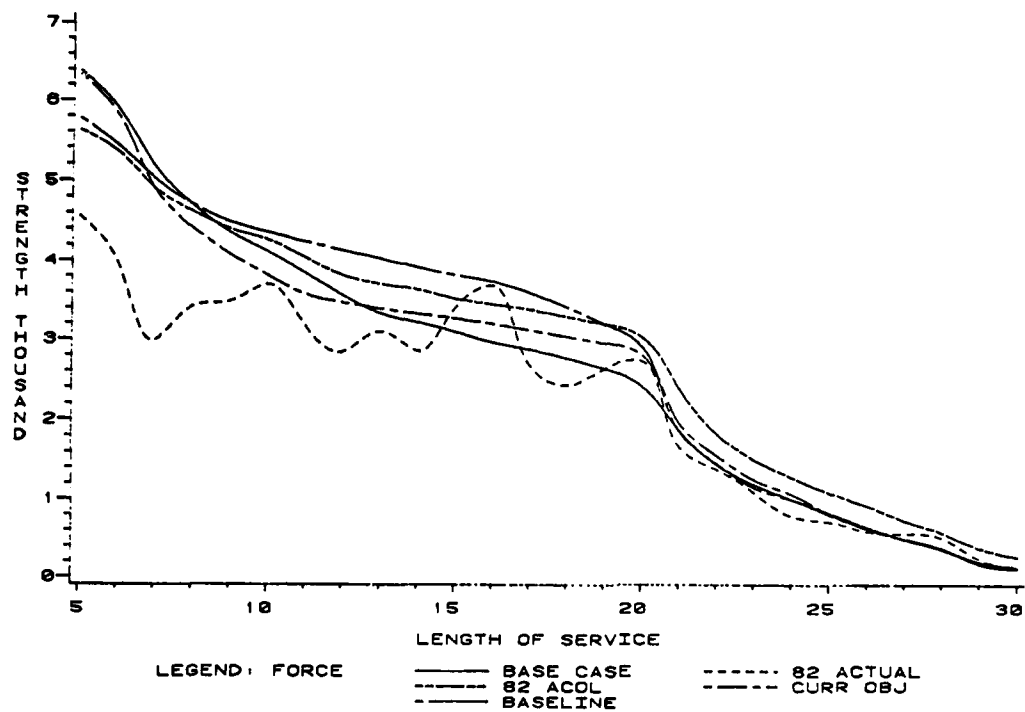
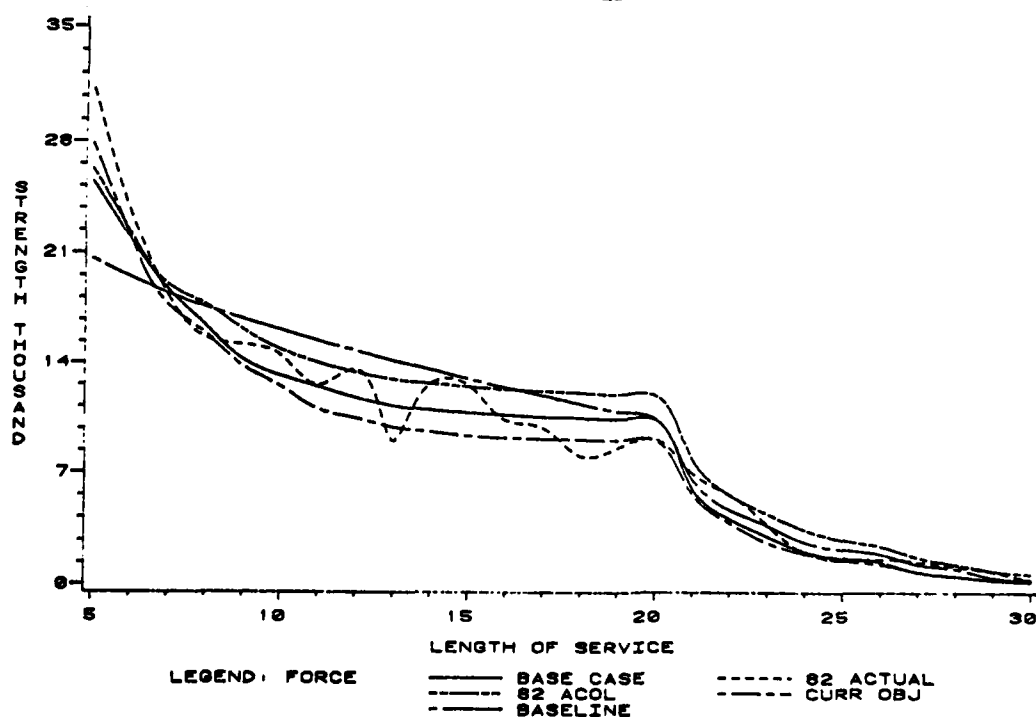


Figure XI-14
FORCE STRUCTURE
USAF ENLISTED



XI-24

The primary analytical focus was directed toward the relationship between the seven-year average force, the current objective and the baseline steady-state force structures. Of primary interest was the general shape of the force profiles compared to the historic retention patterns. Figures XI-15 through XI-22 display this relationship for each of the Services in the context of the career force content. As can be seen, with the exception of the Air Force, the profiles generally emulate each other. In the case of the Air Force, their baseline force reflects a significant increase in the number of personnel required prior to twenty years of service in both the enlisted and officer force. While all the Services indicate the requirement for greater pre-20 YOS retention, the relationship with the historic retention rates remain tenable. Basically, the Services desire a higher continuation rate with a lower accession base. The post-20 YOS strengths, although slightly higher, are not significantly different from today's.

A thorough examination of the six force structures led the Fifth QRCM to adopt the following concept with respect to the current and alternative retirement systems: If retirement alternatives could be developed which would allow the resultant force structures to be at least equal to the historic seven-year retention rates, and all other elements of compensation remained as comparable to the private sector as they were in FY82, then over time it should be possible to achieve the baseline forces developed by the Services. Thus, the key elements in the analyses centered about the seven-year average and its probable effects over time on achieving the structures depicted by the current objective and baseline force profiles. Throughout the analyses, the percentage change relative to the base case has been displayed. These percentages are applicable to the impacts for the other force structures over a reasonable profile range.

Appendix K contains the force grade tables of the baseline and current objective forces along with the distribution of gains and historic losses for each of the Uniformed Services. As explained earlier, the lack of historic data for Public Health Service, National Oceanic Atmospheric Administration and the Coast Guard prevented the inclusion of their force structures in the analysis. However, the Coast Guard accumulated sufficient data during this study to run ACOL evaluations on their officer and enlisted force, included in Appendix I.

Figures XI-15 through XI-22 appear on pages XI-26 through XI-29.

Figure XI-15
 ARMY OFFICER STRENGTH
 7 YR AVG/CURRENT OBJECTIVE/BASELINE

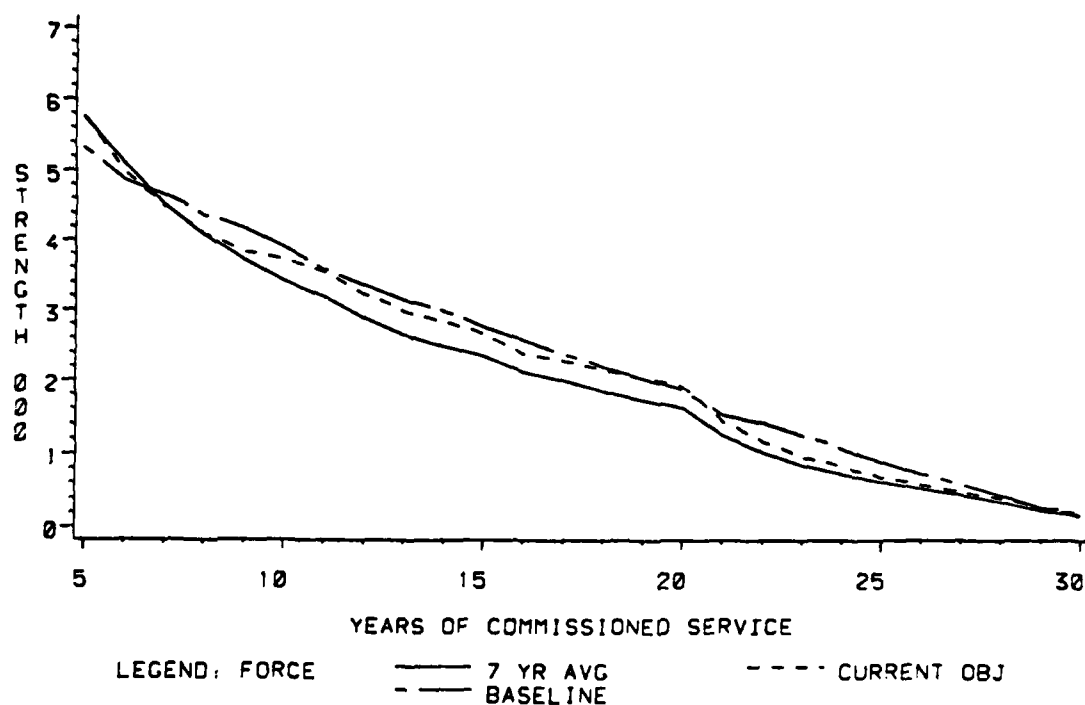
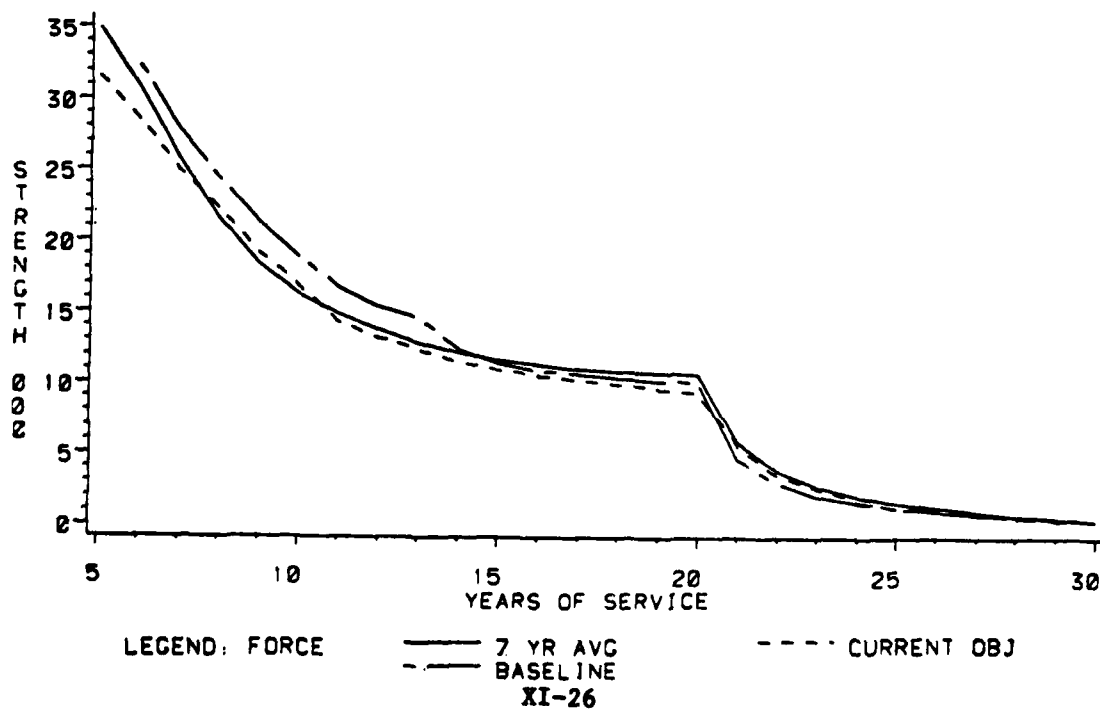


Figure XI-16
 ARMY ENLISTED STRENGTH
 7 YR AVG/CURRENT OBJECTIVE/BASELINE



XI-26

Figure XI-17

NAVY OFFICER STRENGTH 7 YR AVG/CURRENT OBJECTIVE/BASELINE

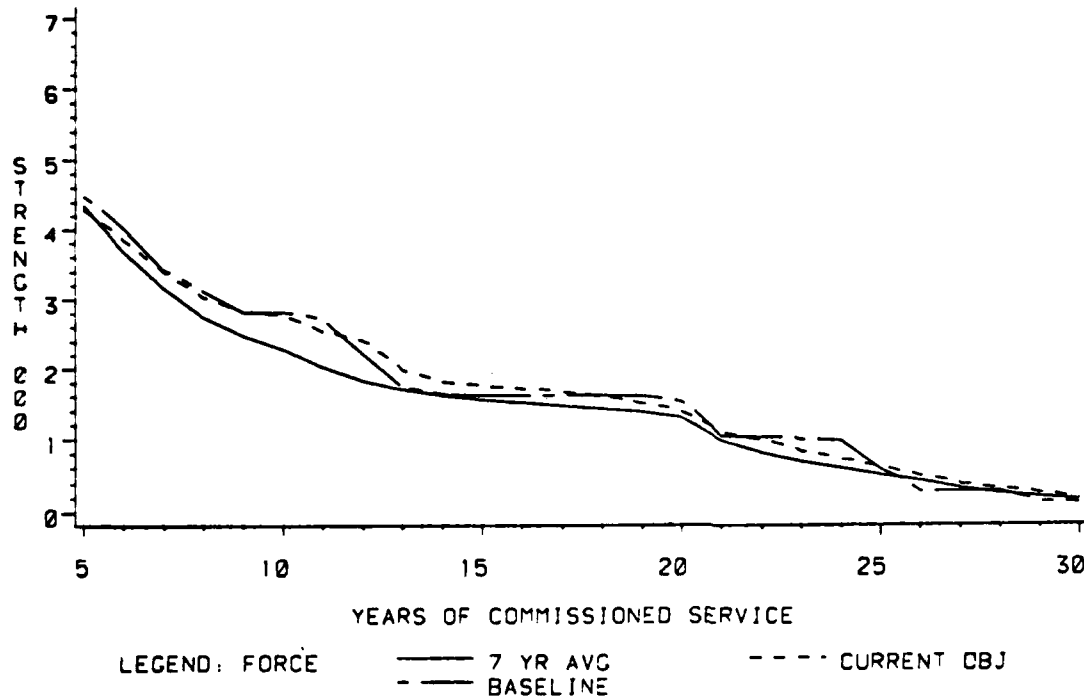


Figure XI-18

NAVY ENLISTED STRENGTH 7 YR AVG/CURRENT OBJECTIVE/BASELINE

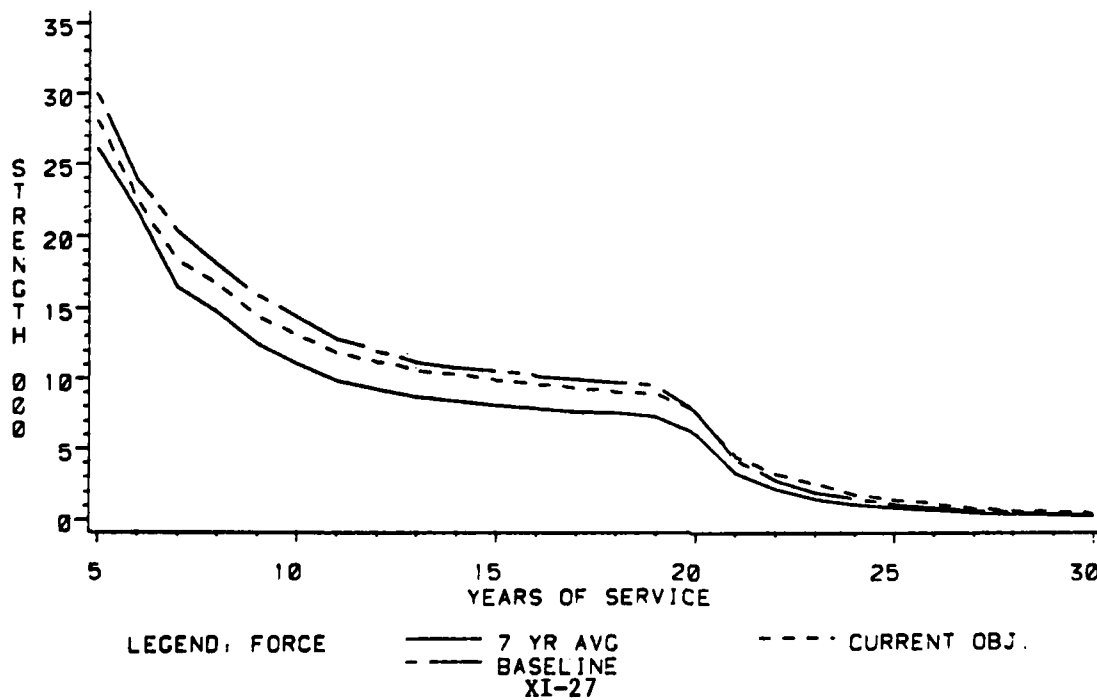


Figure XI-19
USMC OFFICER STRENGTH
7 YR AVG/CURRENT OBJECTIVE/BASELINE

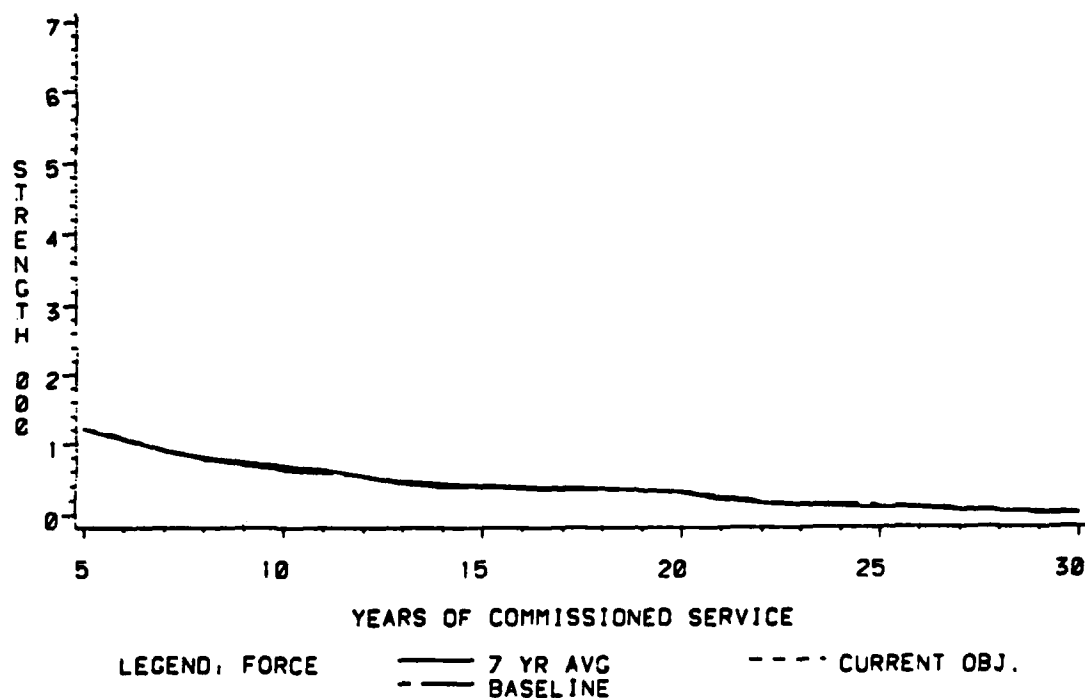
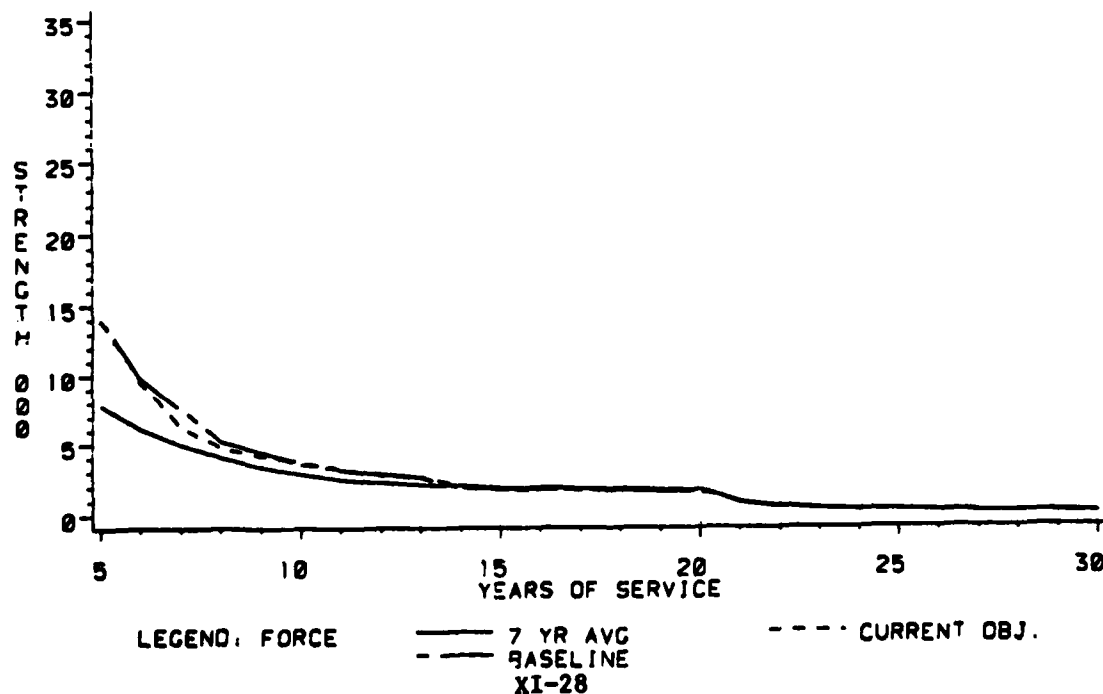


Figure XI-20
USMC ENLISTED STRENGTH
7 YR AVG/CURRENT OBJECTIVE/BASELINE



XI-28

Figure XI-21

USAF OFFICER STRENGTH 7 YR AVG/CURRENT OBJECTIVE/BASELINE

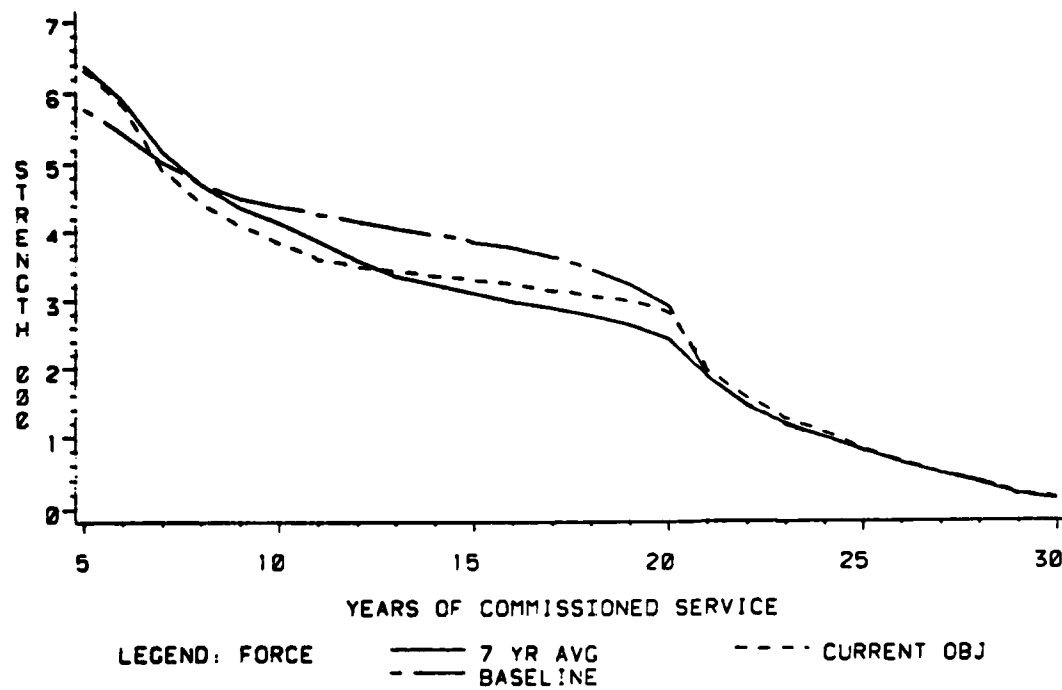
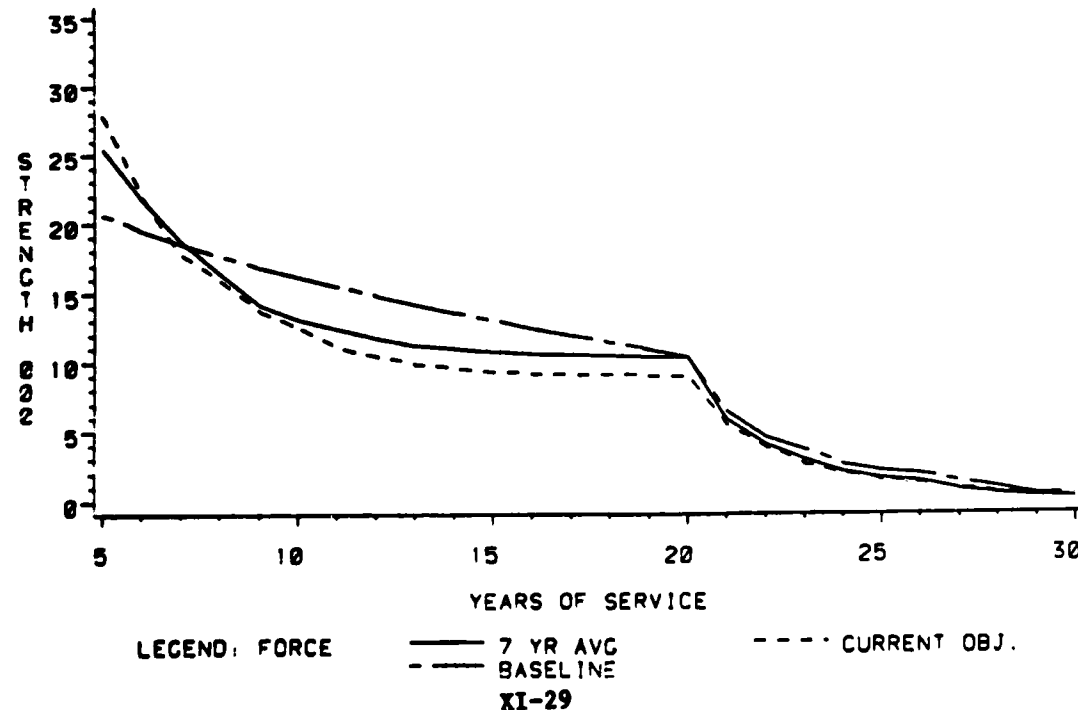


Figure XI-22

USAF ENLISTED STRENGTH 7 YR AVG/CURRENT OBJECTIVE/BASELINE



XI-29

B. PARAMETRIC EVALUATION OF MAJOR ALTERNATIVES.

1. Introduction. As outlined in Section X, a range of possible changes to the current method of computing retired pay were formulated. The changes were both in the kind of retired pay adjustment and in the range of each specific kind of adjustment. Each change was input into the ACOL model and the resultant strength changes were evaluated relative to the 7-year average base case force profile (steady-state). Three specific force effectiveness parameters were examined because they provide insight into what is occurring to the force structure. The three parameters were: the number of accessions, variation in the size of the career force (5 through 30+ YOS), and variation in the retirement-eligible portion of the career force (21 through 30+ YOS). Changes in these parameters were then compared to the change in the present value of the difference between the Service and civilian income streams (this is not the ACOL or Annualized Value) that resulted from specific adjustments made to retired pay or other elements of Service compensation. This process provided an understanding of the linkage between the resultant force changes and the range of adjustments in the compensation, primarily retired pay. Because each Service has different force requirements (seen by the data presented earlier on past annual continuation rates, variations in past and required force profiles, and variations in pay and paygrade profiles), the responsiveness of changes in force profiles to change in the present value of the compensation differential were plotted for each Service. Figures XI-23 through XI-46, located on pages XI-36 through XI-47, are the respective DoD Service graphs. Caution is advised in the interpretation of these results as they are long-term, steady-state forces. In examining the Figures, the reader should remember that the changes that are predicted to occur would only be realized 10 to 20 years after implementation of any specific change.

Initially, ACOL could not be applied to the Coast Guard; however, in later phases of the study, Coast Guard data was developed. A summary of ACOL applications to the Coast Guard is in Appendix I. It was not possible to use ACOL on the PHS or NOAA due to data limitations previously discussed.

2. Strength Aspects. Figures XI-23 through XI-30 are the accession changes required to sustain a FY82 constant force size for each Service, for various adjustments to retired pay as indicated in the figures' titles. This constant force size equates to a DoD-wide total of about 1.8 million enlisted personnel and about 270,000 officers. These personnel were distributed as shown in Tables XI-15 and XI-16. The 270,000 officer figure does not include about 19,000 warrant officers, which were not analyzed because of the difficulty of handling large scale, lateral (prior service) movement between populations.

Table XI-15
FY82 Sized Base Case Force (7-Year Average)
Officer

<u>Strength Force</u>	<u>Army</u>	<u>Navy</u>	<u>Marines</u>	<u>USAF</u>
Accessions	9,302	6,114	1,739	8,602
Years 1-4	32,962	22,426	6,473	31,901
Years 5-30+	55,912(63%)*	39,829(64%)	10,830(65%)	69,566(69%)
Years 5-20	49,438	34,619	9,772	61,341
Years 21-30	6,298	5,002	1,028	8,116
Total (1-30+)	88,872	62,255	17,305	101,465

* Number in () is % of total.

Table XI-16
FY82 Sized Base Case Force (7-Year Average)
Enlisted

	<u>Army</u>	<u>Navy</u>	<u>Marines</u>	<u>USAF</u>
Accessions	135,220	88,477	38,804	70,047
Years 1-4	390,752	284,499	120,357	225,122
Years 5-30+	286,610(43%)*	195,159(41%)	52,711(30%)	239,522(52%)
Years 5-20	266,762	183,438	49,211	219,329
Years 21-30	19,777	11,546	3,446	20,119
Total (1-30+)	677,360	479,660	173,068	464,644

* Number in () is % of total.

As seen from Tables XI-15 and XI-16 for the Army, a 1% change in accessions is about 90 officers and about 1,350 enlisted personnel. These tables can be used in providing approximate strength changes for making comparisons in using Figures XI-23 through XI-46. The first point for all the curves in each of the 24 Figures (XI-23 through XI-46) is based on the HI-3 retired pay force calculation as it became effective for those entering the Service after September 8, 1980. Examining Figure XI-23 for the Army enlisted force, we can observe that, in the long term, a 1% change in enlisted accessions results from the incorporation of the HI-3 averaging of basic pay for the retired pay calculation, using the current 2.5% and full post-retirement indexing for inflation (100% COLA). Three curves are plotted on each of the 24 figures. Each curve, as it moves away from the HI-3 point, represents an increasing reduction of a specific adjustment to retired pay. In all Figures, the three curves depict COLA until age 62, multiplier, and pre-30 YOS adjustments. For example, in Figure XI-23 the pre-30 YOS curve has six plotted points after the HI-3 point. The first point represents a 1% per year reduction, the second, a 2% per year reduction, and so forth. The successive plotted points for each curve correspond to the alternative retirement considerations discussed in Section X. These are shown in Table XI-17.

Table XI-17
Plot Point Identification

Plot Point	COLA Adjust Until 62	Modified Multiplier	Pre-30 Adjust
2*	Pay 90%	2.25(-10%)	-1%/year
3	75%	2.00(-20%)	-2%/year
4	67%	1.75(-30%)	-3%/year
5	50%	1.50(-40%)	-4%/year
6	33%	1.25(-50%)	-5%/year
7	0	-	-6%/year

* First point from HI-3 point.

Referring to Figure XI-27 for Army officers, we can observe that a 2.25 multiplier (plot point 2) and a COLA reduction to 75% (instead of 100%) of the CPI are about equivalent in the effect on both accessions (increase of about 5%) and the reduction at the 20-YOS point to the present value of the relative compensation streams (Service compared to civilian). This can be contrasted with a 1% per year reduction to the retired pay of a person retiring before 30 years. Both the 1%/pre-30 YOS and the 2.25 multiplier result in 45% of HI-3 average basic pay compared to 50% at 20 YOS, and thus, have about the same effect on the present value (PV) of the relative compensation at that point. However, the overall impact on the accessions and the career force is less for the 1%/pre-30 change than for the 2.25 multiplier, because the adjustment to retired pay due to the 1% reduction decreases the longer a member serves. By examining each set of figures, grouped as shown in Table XI-18, one can determine the specific impact of each type of retired pay adjustment on both the officer and the enlisted long-term, steady-state forces for each Service.

Table XI-18
Suggested Grouping of Figures to Examine
Impact of Retired Pay Adjustments

Impact on:		Army	Navy	Marines	USAF
Accessions	- Enl	XI-23	XI-24	XI-25	XI-26
	- Off	XI-27	XI-28	XI-29	XI-30
Career Force (5-30+)	- Enl	XI-31	XI-32	XI-33	XI-34
	- Off	XI-35	XI-36	XI-37	XI-38
Late Career (21-30)	- Enl	XI-39	XI-40	XI-41	XI-42
	- Off	XI-43	XI-44	XI-45	XI-46

From a general overview of all 24 figures (XI-23 - XI-46) it is observed that, for both officer and enlisted forces, the change to the

required accessions and to the size and shape of the career force profile are affected about the same degree by equivalent changes in the present value at the 20-YOS point, due to limiting the COLA until age 62 or adjusting the multiplier. Limiting COLA until the active duty retirees' anniversary of 30 YOS (had they stayed on active duty) has about the same slope as the COLA limited to age 62, but operates for a shorter age period and, thus, has a less severe impact on the force structure. (These data, along with lifetime COLA caps, were not plotted in an effort to keep the figures relatively uncluttered). It is further observed, however, that each specific adjustment to COLA, or to the current 2.5% per YOS multiplier, produces a unique PV change and that the multiplier changes are more severe (larger YOS-20 PV reduction) than the COLA adjustments. This difference in severity between the COLA and the multiplier adjustments is a direct result of the different manner in which each affects the present value of retired pay. The reduced multiplier's impact is immediate and constant. The reduction to retired pay due to limiting the COLA starts out gently but rapidly compounds and is largest at age 62, where it becomes "locked." However, because of discounting, to establish PV at YOS 20 or some other YOS point, the later after retirement a large reduction occurs in the servicemember's retired pay stream the less impact it will have upon the PV at the time of retirement. To observe this effect, examine a 20% multiplier change and a 50% COLA until age 62. The impact on accessions and career force size are about the same; however, a 50% COLA will reduce the retirement system normal cost percentage 26% more than does a 20% reduction in multiplier (and thus the DoD accrual payment and the actual retirees lifetime retirement earnings).

Caution is advised when interpreting the COLA impacts; they assume a long-term, average CPI of 5%. The force impacts for COLA would be more adverse if the average CPI over the selected period of retirement was higher. Conversely, it would be lower if the average CPI were lower. This is one of several considerations against using a post-retirement indexing adjustment factor (COLA) as the primary means of designing (or redesigning) a retirement system. As will be seen from the cost data presented later, full inflation protection for an assumed long-term, average CPI of 5% is responsible for one half of the normal cost percentage of the retirement system. However, since OMB mandates the long-term 5% CPI, the DoD budget effect can be anticipated. Therefore, full indexing represents a major consideration in the overall analysis of both Service force effectiveness (as measured by required strength and quality profiles) and the cost of various systems which satisfy the primary criterion -- mission readiness and sustainability.

It is also noted that the history of CPI projections (see Appendix F) has been less than reliable. Thus, designing a system primarily on such an uncertain basis is undesirable. Another undesirable aspect of the inflation index is the inequity that can be created by the fluctuations between active duty wage growth (frequently capped in the past with subsequent "catch-ups") and retiree COLAs. The latter also have been subject to Congressional change. The solution to the problem of protecting the

retired/retainer pay from inflation is not to penalize both active and retired servicemembers, but to maintain a continuous and smooth in-Service pay adjustment process to assure satisfactory retention and to arrive at a stable retiree indexing policy. These undesirable side effects resulting from the design of a retirement system based solely upon a COLA index should not prohibit the use of combining different COLA indexing policies with other, more stable, design factors which are relatively insensitive to economic assumptions. These include revised multipliers, several step (tiered) multipliers, pre-30 YOS retiree adjustments, social security coordination at time of retirement, etcetera.

The second general observation from all 24 figures concerns the shape of the curve for the pre-30 YOS retired pay adjustment. Under this option, the level of the retirement benefit at 20 YOS begins at the same value as the reduced multiplier (a 1% pre-30 and a -10% multiplier are the same). The retired pay benefit for the pre-30 adjustment increases more rapidly as a member elects to remain longer in the career force (Table X-2 compared Table X-1). Therefore, this type adjustment does not reduce overall retired pay as severely as adjusting the multiplier. When these respective retired pay benefit levels are input to the ACOL model, one observes a different response to the accession and career force strengths than was the case for the modified multiplier options. Because the retirement benefit at 30 YOS remains unchanged, of those members who would stay to 20 YOS, more remain in the career force for each additional year from 20 to 30. While accession levels begin increasing as rapidly as under the modified multiplier options, the rate of increase quickly falls and a plateau in the rate of increased accessions is achieved for the case of a 4% per year pre-30 reduction in retirement benefit levels. This plateau corresponds to the low point to which career force strengths are reduced by the range of pre-30 benefit adjustment options evaluated. Additional specific observations are as follows:

a. Accessions. Officer accession-change curves for all Services are more vertical than the enlisted curves, until about the 4% plot point in the enlisted curves. The exception is the Air Force enlisted curves, which start out more vertical and thus, like the officers, have less of a degree of impact. Among the DoD Services, the Marine Corps enlisted curves demonstrate the greatest response.

b. Total Career Force (5-30+ YOS). The officer curves are again steeper and, therefore, display less impact than the enlisted curves. Once again, the exception is the Air Force enlisted curve which is more vertical from the outset; the Air Force, which characteristically exhibits a higher annual continuation rate in the early and mid-career timeframe, is not impacted as heavily as the Marines Corps. The Marines have historically reduced an entering cohort more rapidly in the early years of service, and then retained this smaller percentage of the cohort longer. The losses from this smaller cohort in the mid-career time frame, coupled with a different average pay stream by YOS, help cause the stronger

career force response observed for the Marine Corps. Conversely, the Air Force losses in the retirement-eligible years are higher. The Army and Navy fall between these two extremes. In each case, it is the differences in previously observed Service-specific continuation rates, the slight pay variations in each YOS, and the relative force sizes that help cause these responses. The slope (but not the length) of the COLA and multiplier curves are about the same for each Service. The exception is, again, the Air Force officer career force, where a higher relative continuation rate causes the curve to be more vertical and, therefore, have less force impact for a given adjustment in retired pay.

c. Late Career Force (21-30+ YOS). There is a higher percentage impact for all the adjustments on the smaller percentage (generally less than 10%) of the total force strength beyond the 20-YOS point. Here the pre-30 adjustment curve is radically different from the COLA and the multiplier adjustment curves for both officers and enlisted personnel. The reason is, as stated earlier, that the incentive is higher to stay beyond 20 YOS once a servicemember reached that point.

As mentioned earlier, the reduced COLAs for life or until the anniversary of the 30th YOS (as opposed to age 62) are not plotted on these figures; however, an ACOL analysis was conducted. If plotted, these data would closely approximate the slope of the reduced COLA until age 62 curve, but would have a different impact on the force profile for a specific adjustments to COLA. For example, a 50% COLA paid until 30 YOS has about the same force impact as a 75% COLA paid until age 62. The same is true for a 33% COLA paid until 30 YOS and a 67% COLA paid until 62. A zero COLA until 30 YOS and a 50% COLA until age 62 are about the same. Table XI-19 shows these data for the DoD enlisted force.

Table XI-19
Percent Change from COLA Adjustment
Prior to 30-YOS Point
(DoD Enlisted)

<u>COLA</u>	<u>ACCESSIONS</u>	<u>CAREER FORCE</u>	<u>LATE CAREER FORCE</u>
100%/HI-3	+1.1	-2.1	-22.0
90	+1.8	-2.4	-26.0
75	+2.9	-3.7	-27.0
67	+3.4	-4.4	-28.0
50	+4.4	-5.2	-30.0
33	+5.4	-6.9	-31.0
0	+6.7	-8.5	-32.0

The last general observation drawn from these Service results is that the enlisted career force is more on the margin (more sensitive) relative to retired pay changes than the officer force. This is true for all Services. The reason lies primarily in the differences in the relative (Service compared to civilian) pay streams. Officer Service pay generally exceeds the average civilian alternative income streams and, thus, generates a positive inducement to remain in service, independent of the retirement draw. For the enlisted personnel, however, Service pay falls short of the average civilian alternative income streams. This generates an inducement to leave the Service which must be overcome by the retirement draw. Therefore, the additive ACOL value due to retired pay in the pre-20 YOS is much more effective for the enlisted force. These comparative data can be observed by examining the appropriate ACOL output exhibits in Appendix I.

The next step in the overall Fifth QRMC analyses was to combine the different types of retired pay adjustments. Vesting and social security coordination were part of this analysis. The change in vesting, to either an earlier or later career point, in addition to the question of social security offsets and member contributions are discussed in paragraphs XI.C.1., XI.C.2., and XI.C.3., respectively. Review and analyses of the impact of previous major retirement study proposals are contained in paragraph XI.C.4.

The main effort centered on combining a pre-30 YOS adjustment with a COLA adjustment for several reasons. The COLA and multiplier changes reduce the entire career force profile, while the pre-30 change increases the late career force profile at the expense of the early/mid-career force (5-20 YOS). The early/mid-career force is where the career force strength requirement is the largest. It was determined that combining a pre-30 YOS adjustment with either a COLA or a multiplier adjustment produced a smaller impact between the two extremes for a larger change in PV at the 20-YOS point. This meant that more retirement dollars were available to reallocate for restoring or improving the base case force profile as will be shown later. An example of this effect can be illustrated by an Army officer case. Using Figure XI-27 we can observe the respective changes. A 3% pre-30 change decreases the PV by 30% and increases accessions by about 5%. Seventy-five percent COLA until age 62 decreases the PV by 10% and increases the accessions by about 5%. The combination of the two decreases the PV by 40%, but only increases accessions by 8% compared to the combined value of 10%. A similar observation can be made with slightly different absolute response values for all 24 figures.

Figure XI-23

PERCENT CHANGE IN ACCESSIONS

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=ARMY CATEGORY=ENLISTED

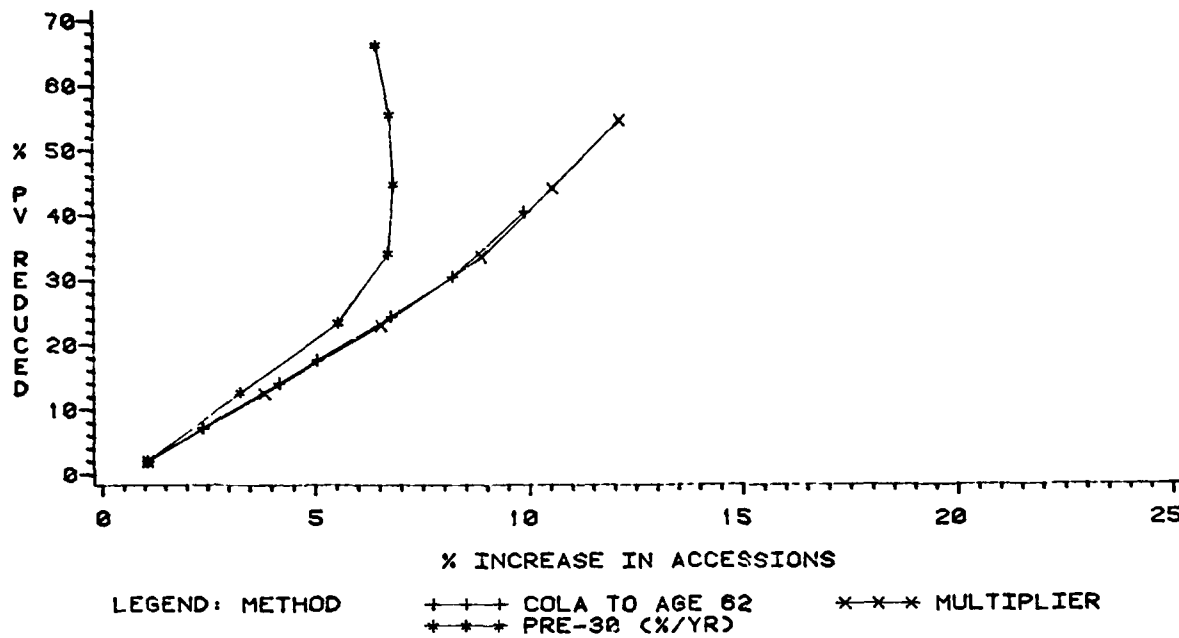


Figure XI-24

PERCENT CHANGE IN ACCESSIONS

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=NAVY CATEGORY=ENLISTED

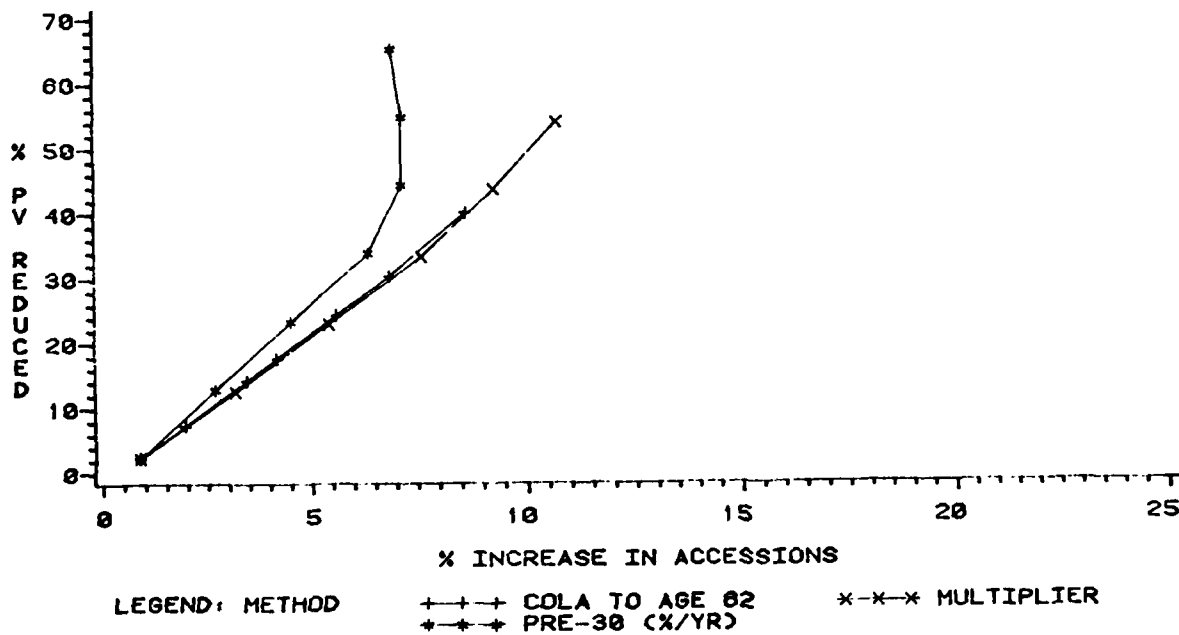


Figure XI-25
PERCENT CHANGE IN ACCESSIONS
 DUE TO REDUCED RETIREMENT BENEFIT
 (PRESENT VALUE -- PV AT 20 YOS)
 SERVICE=MARINES CATEGORY=ENLISTED

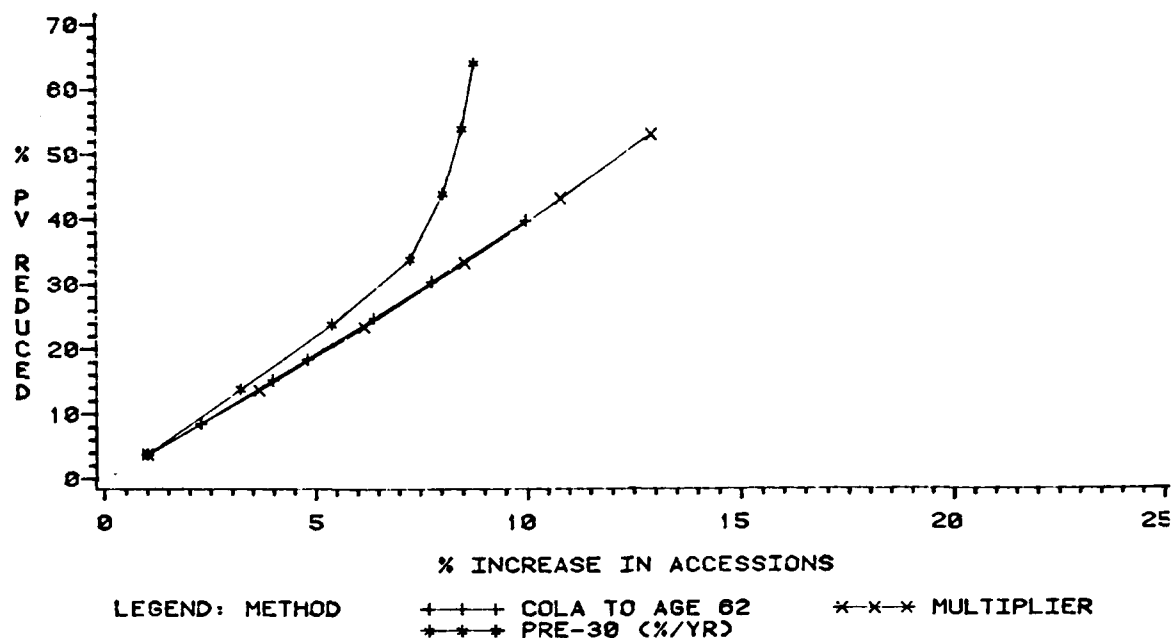


Figure XI-26
PERCENT CHANGE IN ACCESSIONS
 DUE TO REDUCED RETIREMENT BENEFIT
 (PRESENT VALUE -- PV AT 20 YOS)
 SERVICE=AIR FORCE CATEGORY=ENLISTED

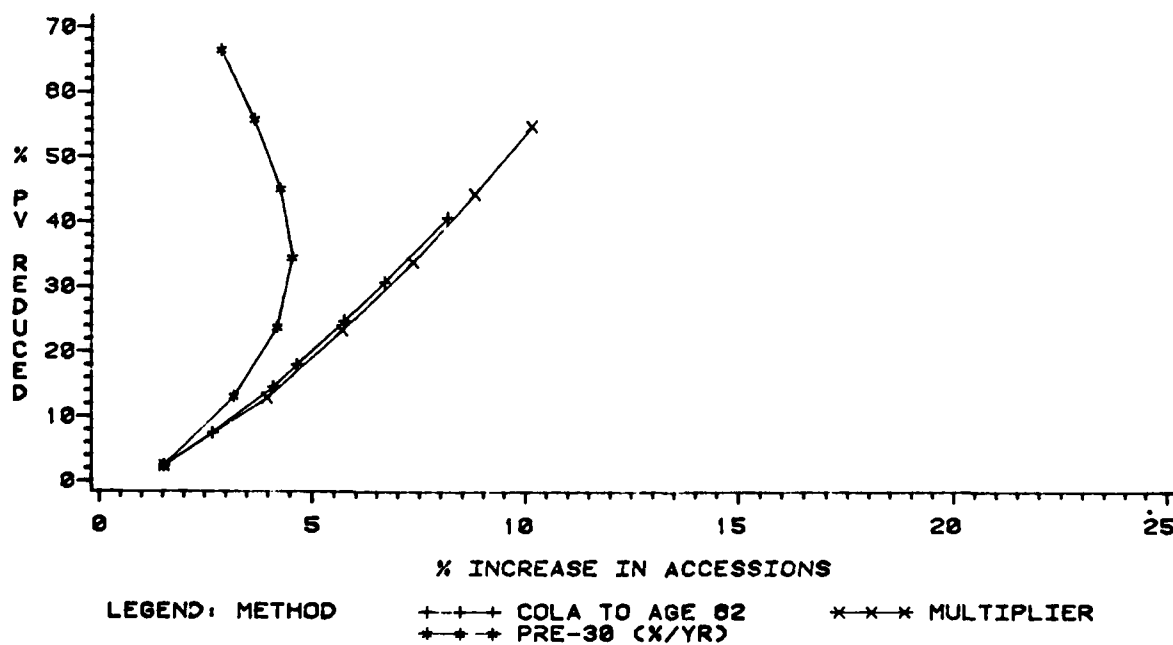


Figure XI-27
PERCENT CHANGE IN ACCESSIONS
 DUE TO REDUCED RETIREMENT BENEFIT
 (PRESENT VALUE -- PV AT 20 YOS)
 SERVICE-ARMY CATEGORY-OFFICER

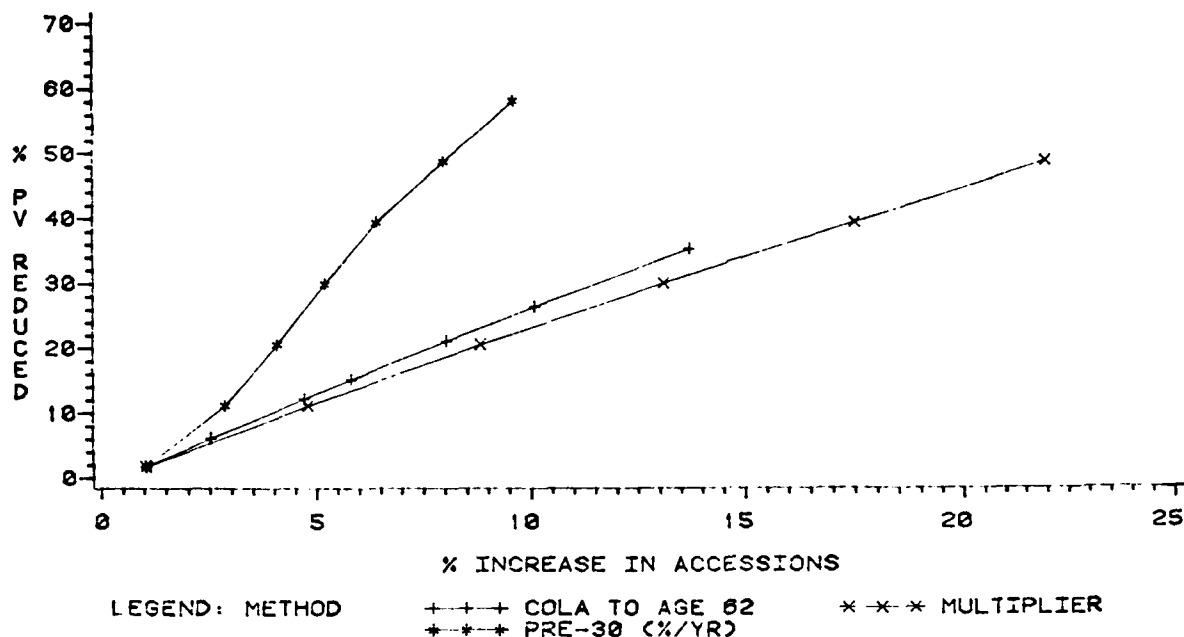


Figure XI-28
PERCENT CHANGE IN ACCESSIONS
 DUE TO REDUCED RETIREMENT BENEFIT
 (PRESENT VALUE -- PV AT 20 YOS)
 SERVICE-NAVY CATEGORY-OFFICER

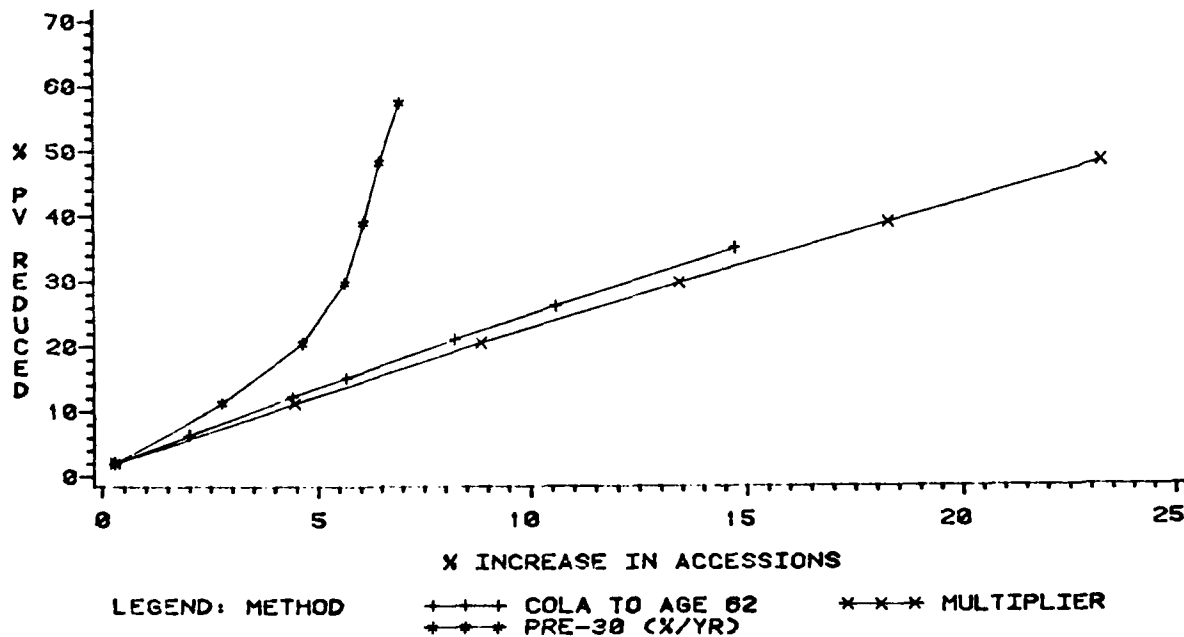


Figure XI-29

PERCENT CHANGE IN ACCESSIONS

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YDS)
SERVICE=MARINES CATEGORY=OFFICER

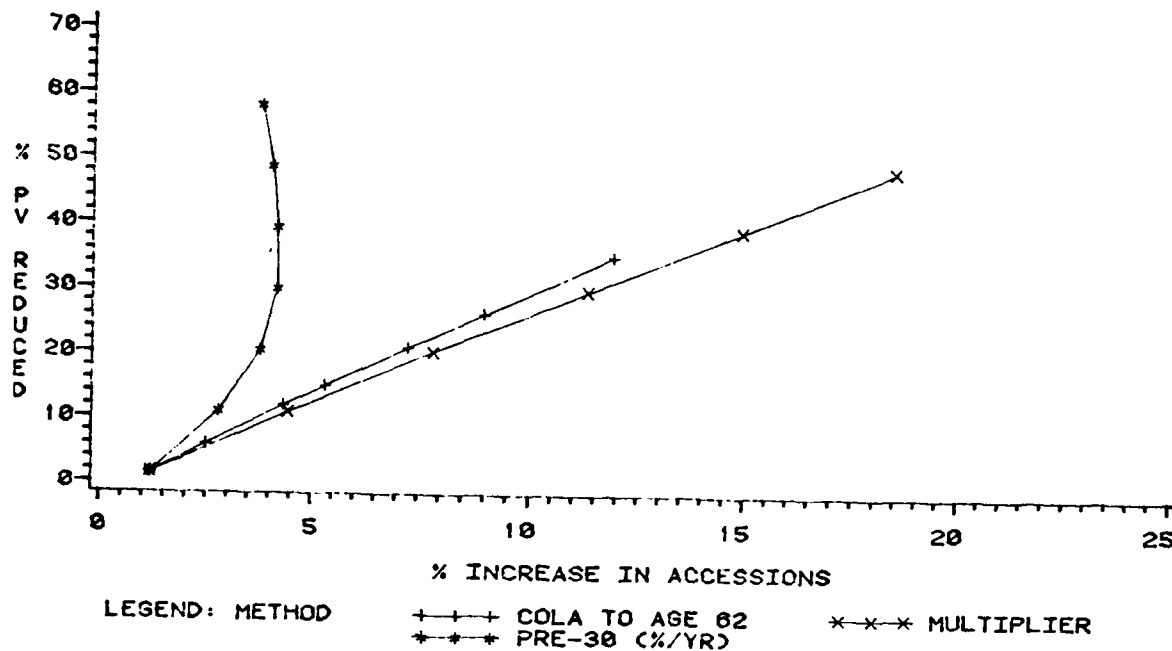


Figure XI-30

PERCENT CHANGE IN ACCESSIONS

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YDS)
SERVICE=AIR FORCE CATEGORY=OFFICER

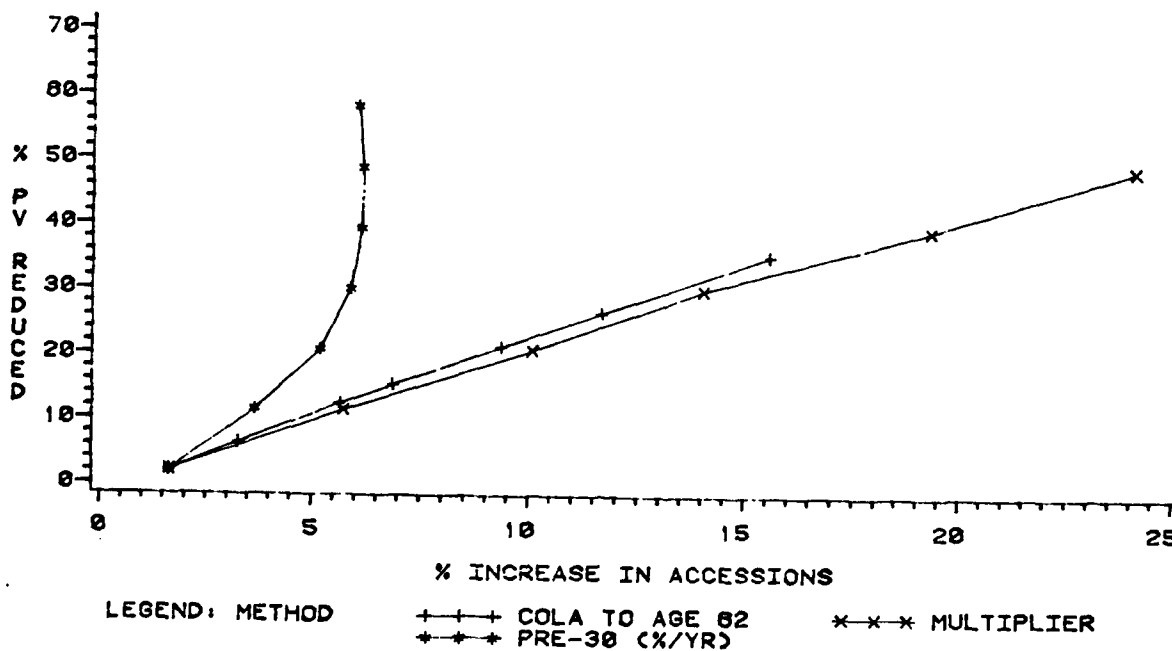


Figure XI-31

PERCENT CHANGE IN CAREER FORCE (5 - 30+ YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=ARMY CATEGORY=ENLISTED

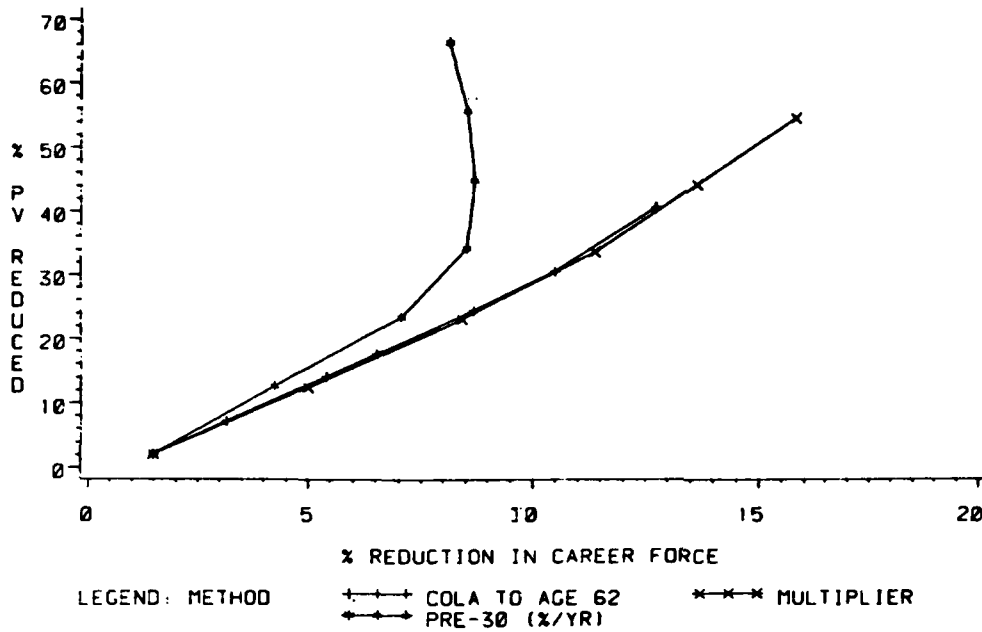


Figure XI-32

PERCENT CHANGE IN CAREER FORCE (5 - 30+ YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=NAVY CATEGORY=ENLISTED

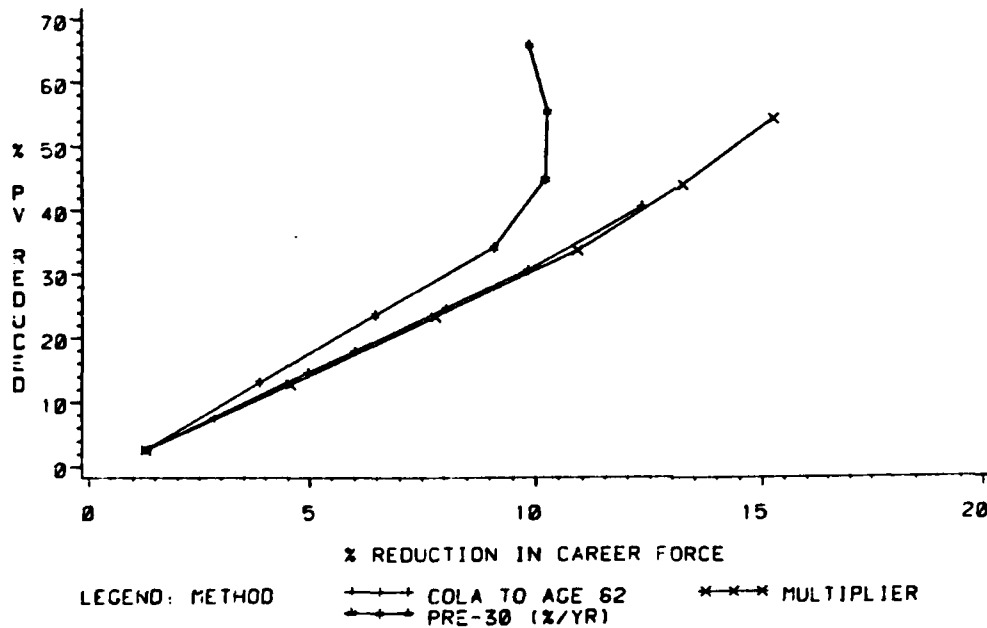


Figure XI-33

PERCENT CHANGE IN CAREER FORCE (5 - 30+ YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=MARINES CATEGORY=ENLISTED

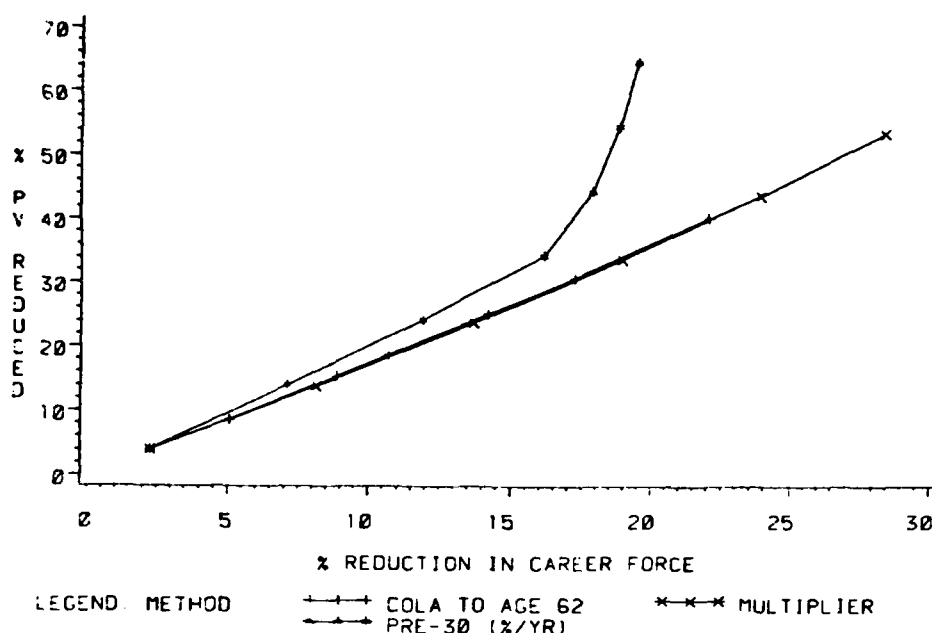


Figure XI-34

PERCENT CHANGE IN CAREER FORCE (5 - 30+ YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=AIR FORCE CATEGORY=ENLISTED::

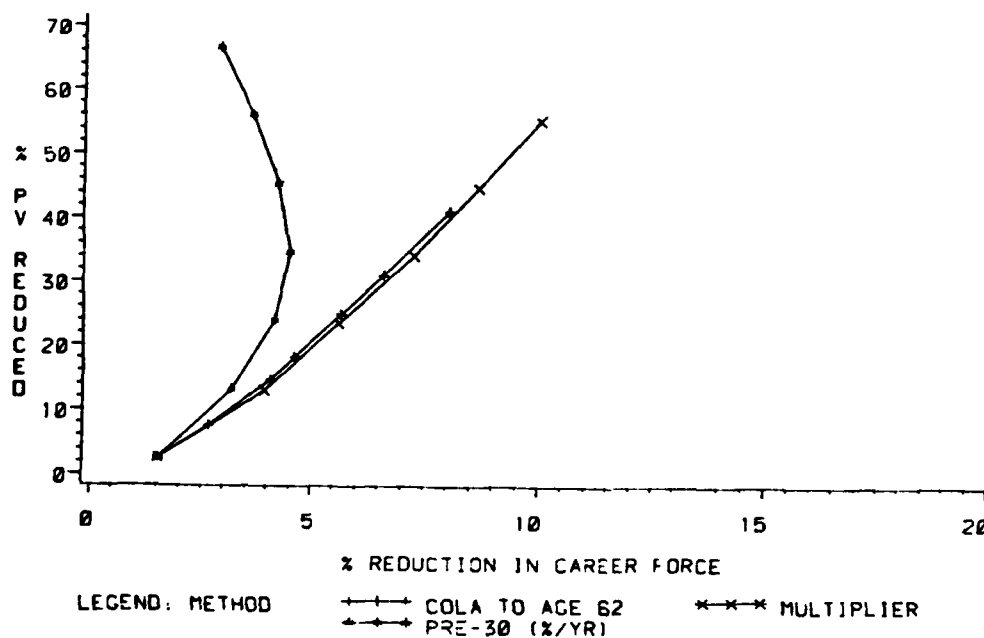


Figure XI-35

PERCENT CHANGE IN CAREER FORCE (5 - 30+ YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=ARMY CATEGORY=OFFICER

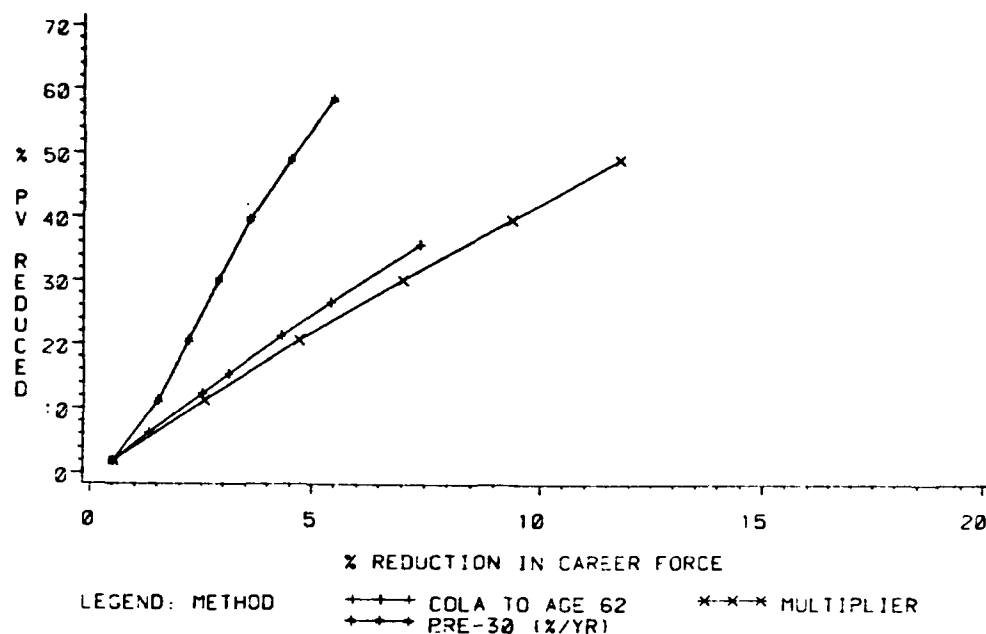


Figure XI-36

PERCENT CHANGE IN CAREER FORCE (5 - 30+ YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=NAVY CATEGORY=OFFICER

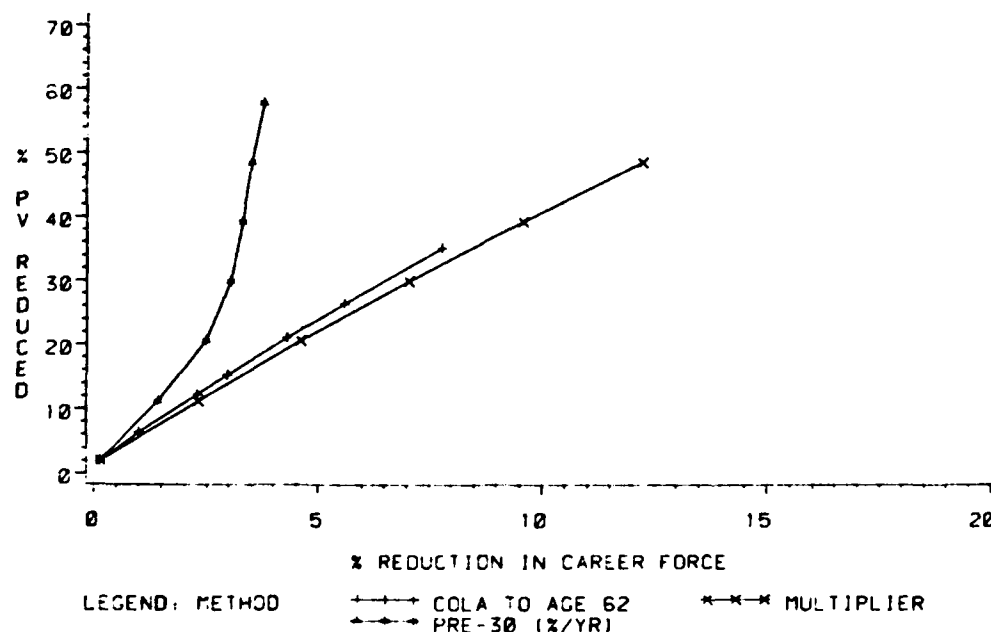


Figure XI-37

PERCENT CHANGE IN CAREER FORCE (5 - 30+ YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=MARINES CATEGORY=OFFICER

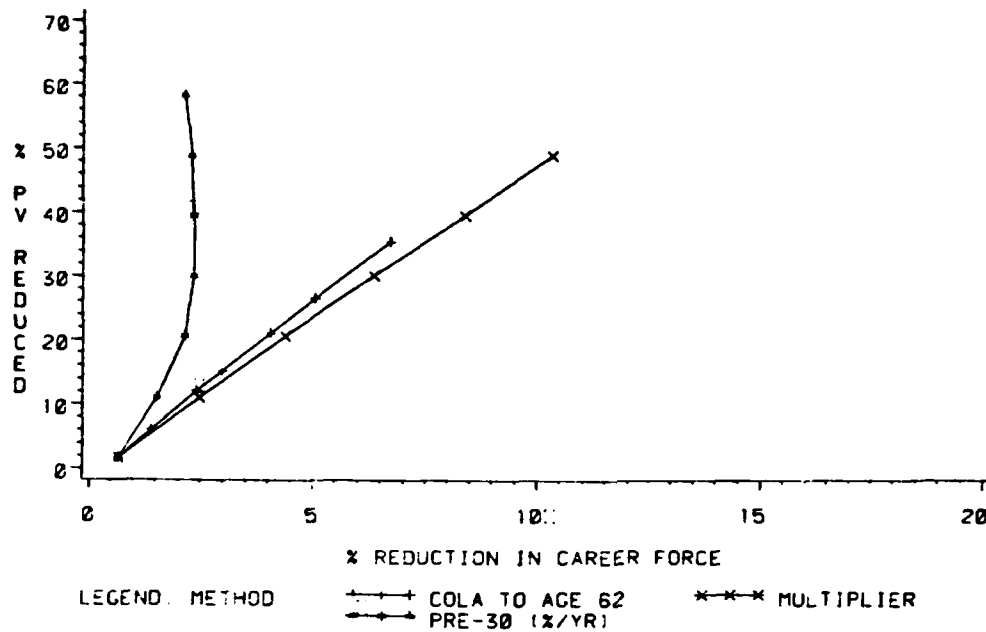


Figure XI-38

PERCENT CHANGE IN CAREER FORCE (5 - 30+ YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=AIR FORCE CATEGORY=OFFICER

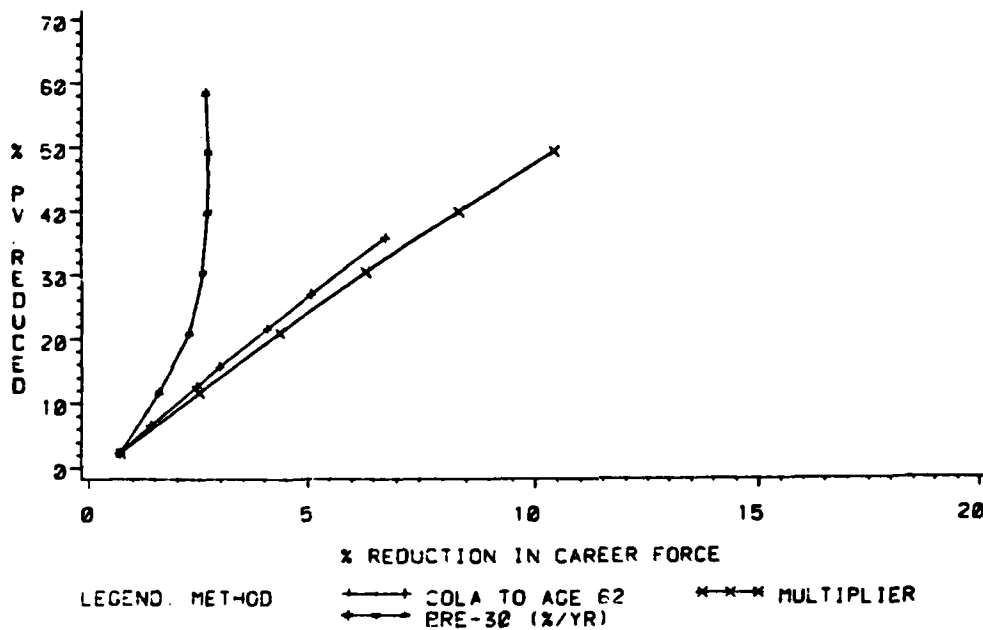


Figure XI-39

PERCENT CHANGE IN LATE CAREER (21 - 30 YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=ARMY CATEGORY=ENLISTED

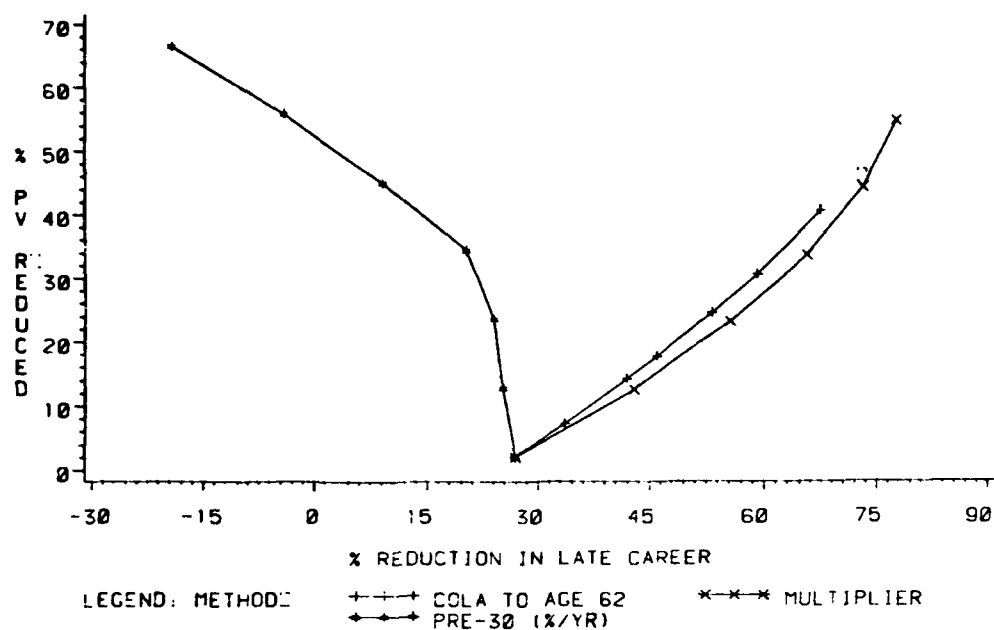


Figure XI-40

PERCENT CHANGE IN LATE CAREER (21 - 30 YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=NAVY CATEGORY=ENLISTED

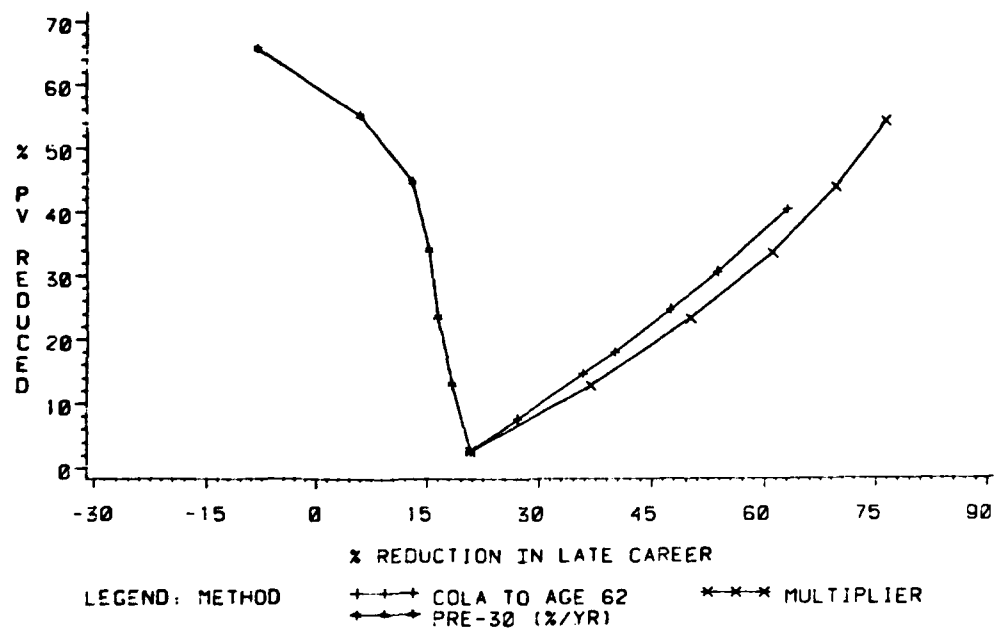


Figure XI-41

PERCENT CHANGE IN LATE CAREER (21 - 30 YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=MARINES CATEGORY=ENLISTED

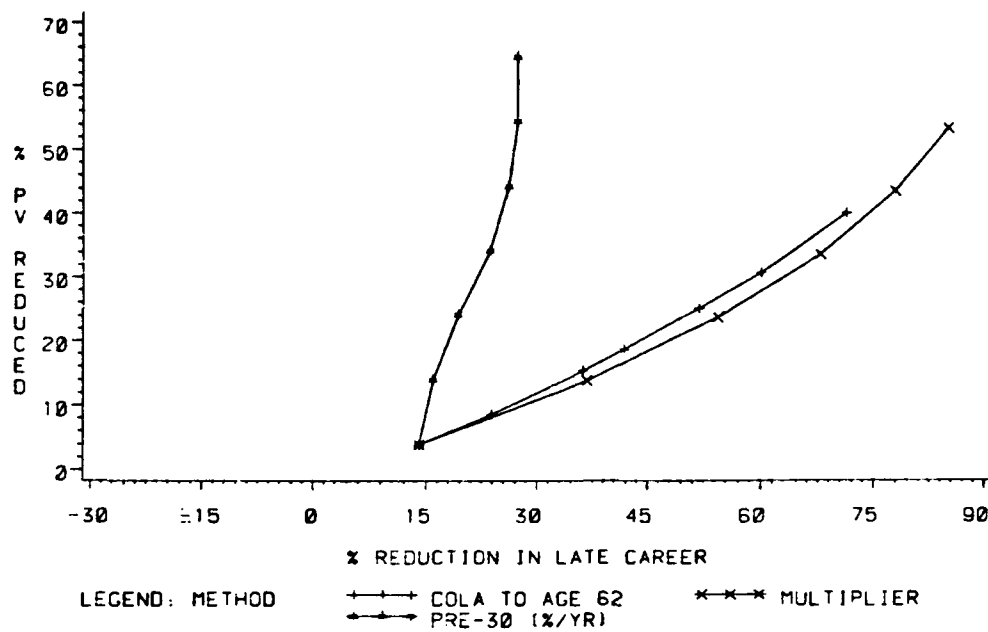


Figure XI-42

PERCENT CHANGE IN LATE CAREER (21 - 30 YOS)

DUE TO REDUCED RETIREMENT BENEFIT!!
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=AIR FORCE CATEGORY=ENLISTED

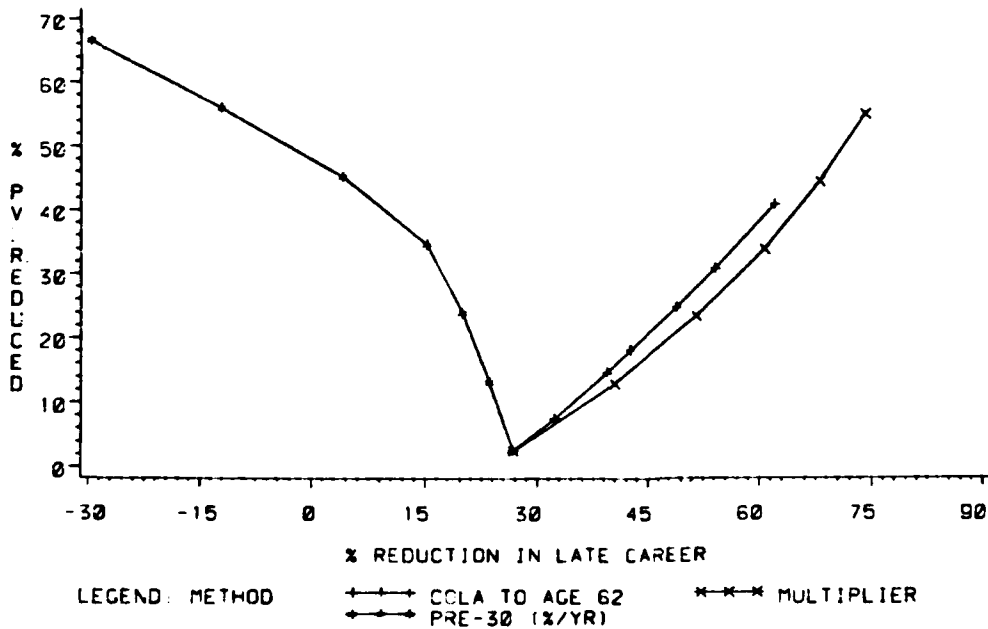


Figure XI-43

PERCENT CHANGE IN LATE CAREER (21 - 30 YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=ARMY CATEGORY=OFFICER

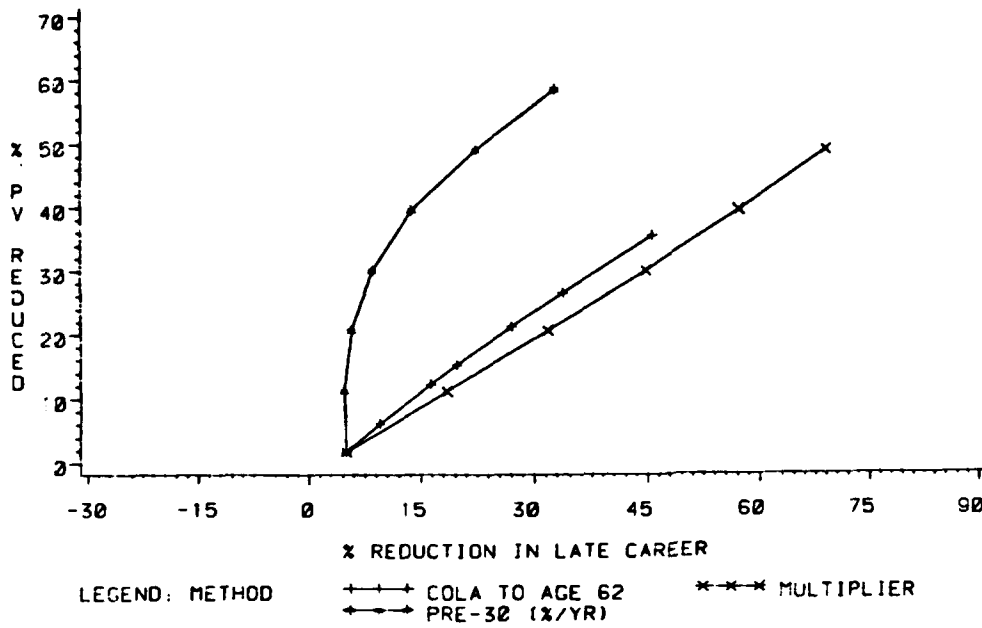


Figure XI-44

PERCENT CHANGE IN LATE CAREER (21 - 30 YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=NAVY CATEGORY=OFFICER

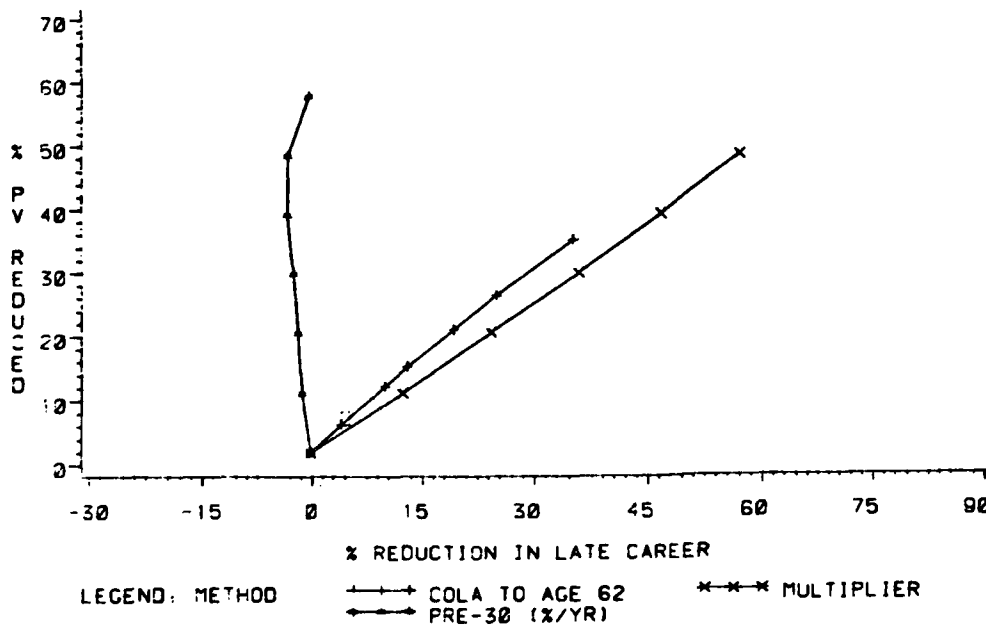


Figure XI-45

PERCENT CHANGE IN LATE CAREER (21 - 30 YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=MARINES CATEGORY=OFFICER

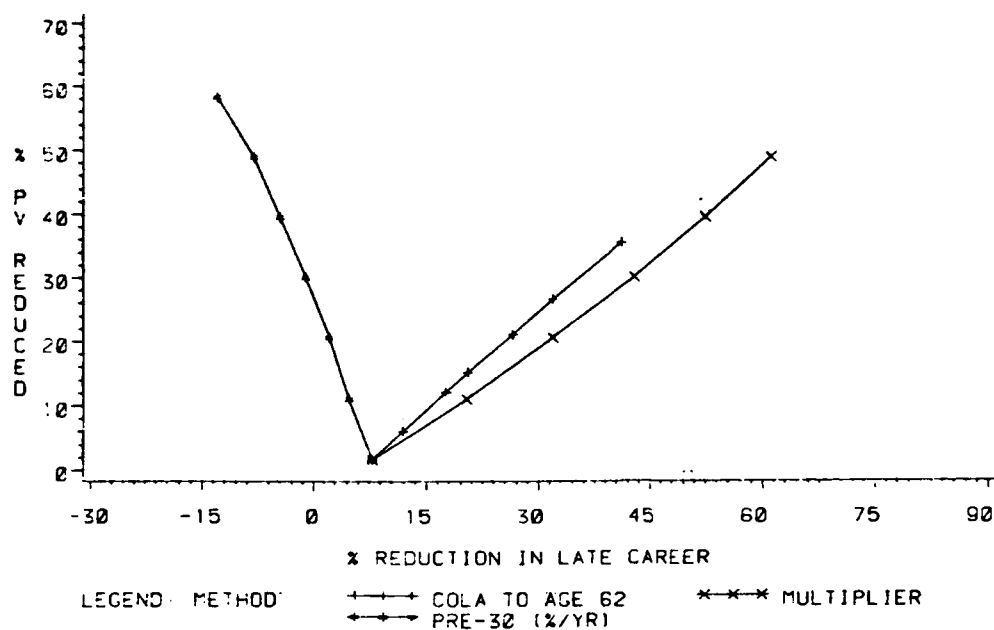
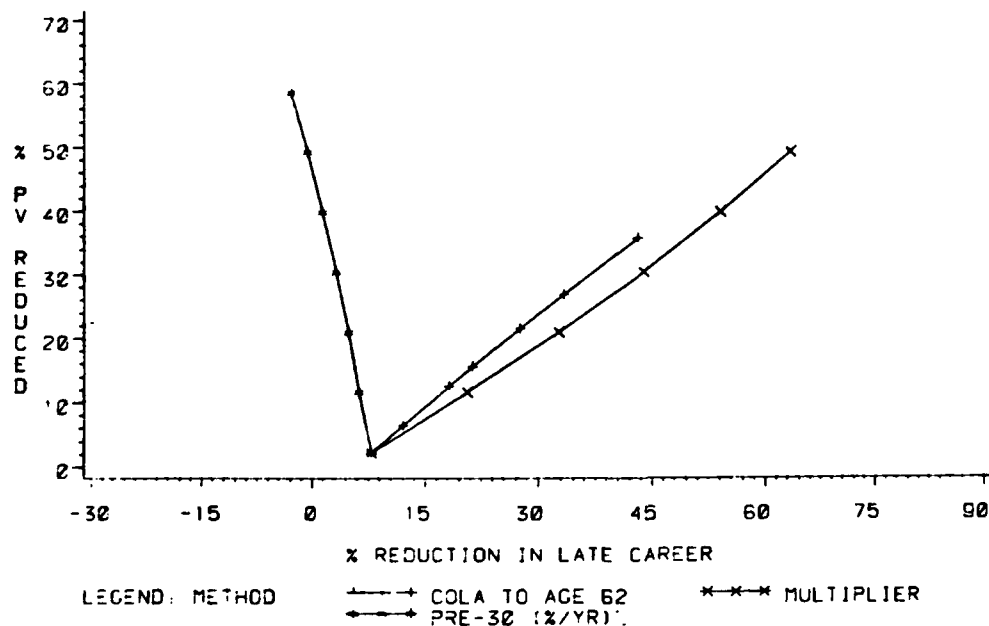


Figure XI-46

PERCENT CHANGE IN LATE CAREER (21 - 30 YOS)

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=AIR FORCE CATEGORY=OFFICER



A large number of various combinations were examined. Three examples believed to be feasible by the QRMC are shown in Table XI-28. Note that the results have now been combined into DoD aggregate force impacts relative to both enlisted and officer DoD base case force profiles. All three examples are pre-30 YOS and COLA combinations for the reasons stated earlier and because external criticisms of the system have centered on full indexing and the value of the pre-30 YOS retirees' retainer/retired pay. Another possible combination alternative CPI minus 1% for life and a 1% per year pre-30 YOS subtraction, is discussed in Appendix L, Section E.

Table XI-28
Combination Adjustment Percentage Impacts
(Relative to Base Case)

	<u>DoD Enlisted</u>			<u>DoD Officer</u>		
	<u>Accessions</u>	<u>Career Force</u>	<u>Late Career Force</u>	<u>Accessions</u>	<u>Career Force</u>	<u>Late Career Force</u>
75% COLA until 62, 2%/yr pre-30 YOS	+7.2%	-9.9%	-37%	+7.8%	-4.0%	-15%
75% COLA until 62, 3%/yr pre-30 YOS	+8.1%	-11.0%	-34%	+8.6%	-4.4%	-16%
67% COLA until 62, 3%/yr pre-30 YOS	+8.5%	-11.6%	-38%	+9.6%	-4.8%	-20%
CPI minus 1% for life, 1% yr (subtraction) pre-30 yos	+6.7%	- 8.6%	-28%	+7.4%	-3.7%	-10%

The previous overall Service results can be combined into a DoD aggregate force for officer and enlisted personnel and the results displayed. Figures XI-47 through XI-52 are these aggregated results and show the combined percentage changes on accessions, the career force (5-30+ YOS) and the late career force years (21-30 YOS). Individual figures again show each plot point, for each of the three types of retired pay adjustments (see Table XI-17). The first bar in each of the three sections of each figure represents the impact of HI-3 on force strengths and accessions. For the multiplier adjustments, enlisted accession levels increased by 2% for each 10% reduction in the retirement benefit levels. The corresponding reduction in career force size is about 3% for each 10% reduction in retirement pay. For officers, the comparable figures are 4% and 2% for each 10% reduction. For the

COLA changes, the enlisted accessions increase about 0.8% for each 10% reduction to the CPI adjustment and the career force is reduced about 1%. For officers, the corresponding figures are a 1.4% accession increase and a 0.7% career force reduction for each 10% COLA reduction.

The pre-30 YOS adjustment, as stated earlier, does not react in the same way as changes related to reductions in the COLA or the multiplier. Enlisted accessions increase rapidly, at first, but then level off at about 5%. The enlisted career force reduction reacts similarly, leveling at a minus 6%; however, the size of the career population in the 21-30 YOS continuously increases from the initial HI-3 reduction. The officer force accessions never really level off; they only slow their growth rate. The officer career force reduction increases continuously at about 0.3% to 0.4% per additional 1% reduction after the initial 2%/year adjustment. The effect in the officer 21-30 YOS portion of the career force is minimal. Thus, the effect of the pre-30 YOS adjustment on the 21-30 YOS careerists (officer and enlisted) is decidedly different from both the COLA and multiplier adjustments which substantially reduce career force strength in all years.

In each of the several types of retired pay adjustments reviewed so far, there has been a significant negative impact on the retention of a satisfactory sized and shaped career force. There has also been an increase in the number of required accessions to sustain a specified overall force size. Stated differently, the comparative force effectiveness of these different profiles is less than what has been stated as required by the Services. It is also less than what has been historically achieved with the current system. Clearly, they are less experienced. Figures XI-53 through XI-55 show the actual DoD strength profiles for several different reduction values for each type adjustment.

Figure XI-47
Accession Impact - DoD Enlisted

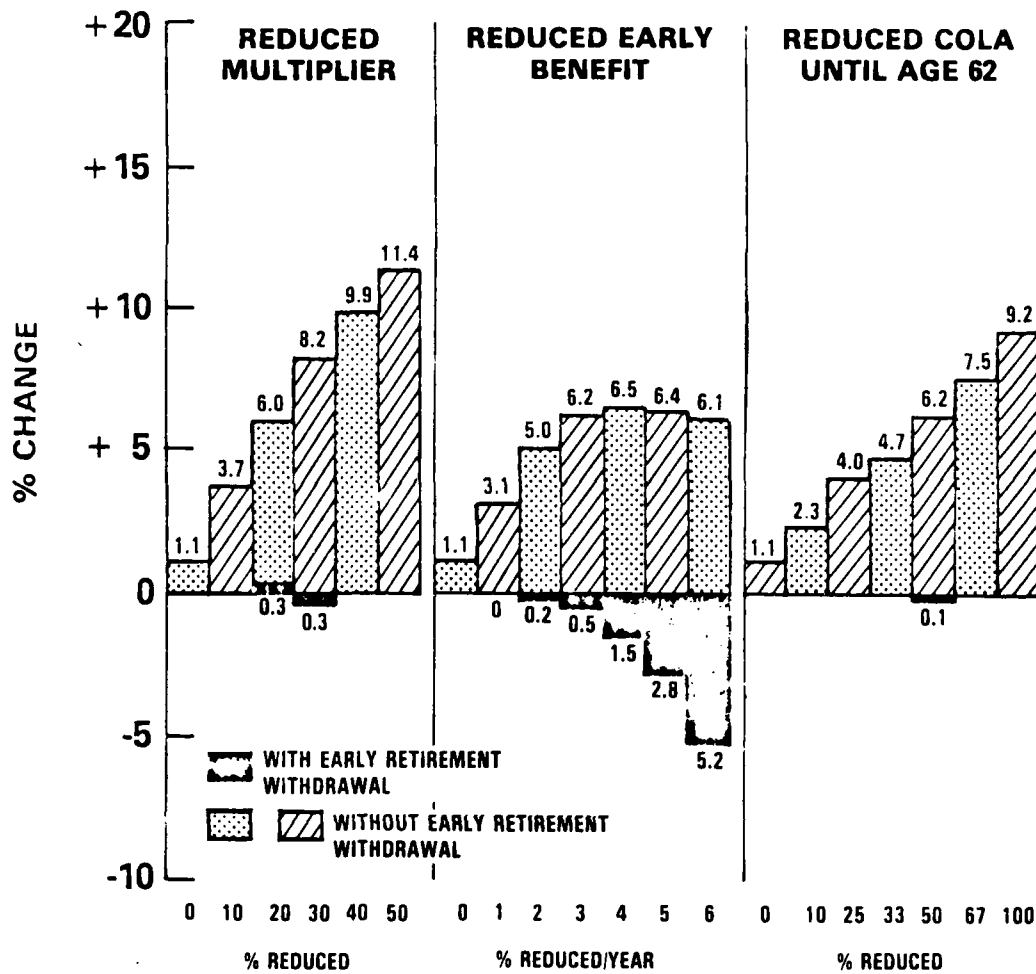


Figure XI-48
Accession Impact - DoD Officers
(No Warrants)

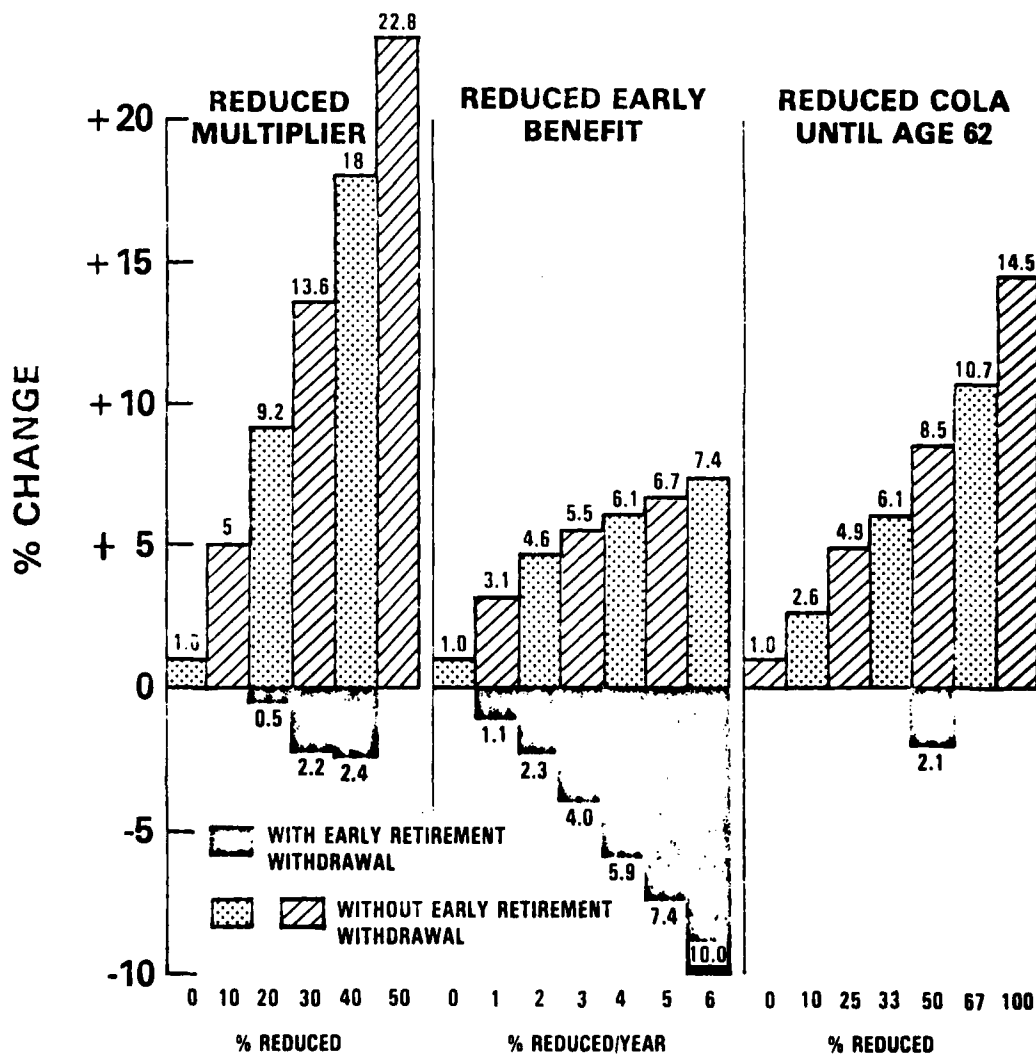


Figure XI-49
Career Force Impact - DoD Enlisted

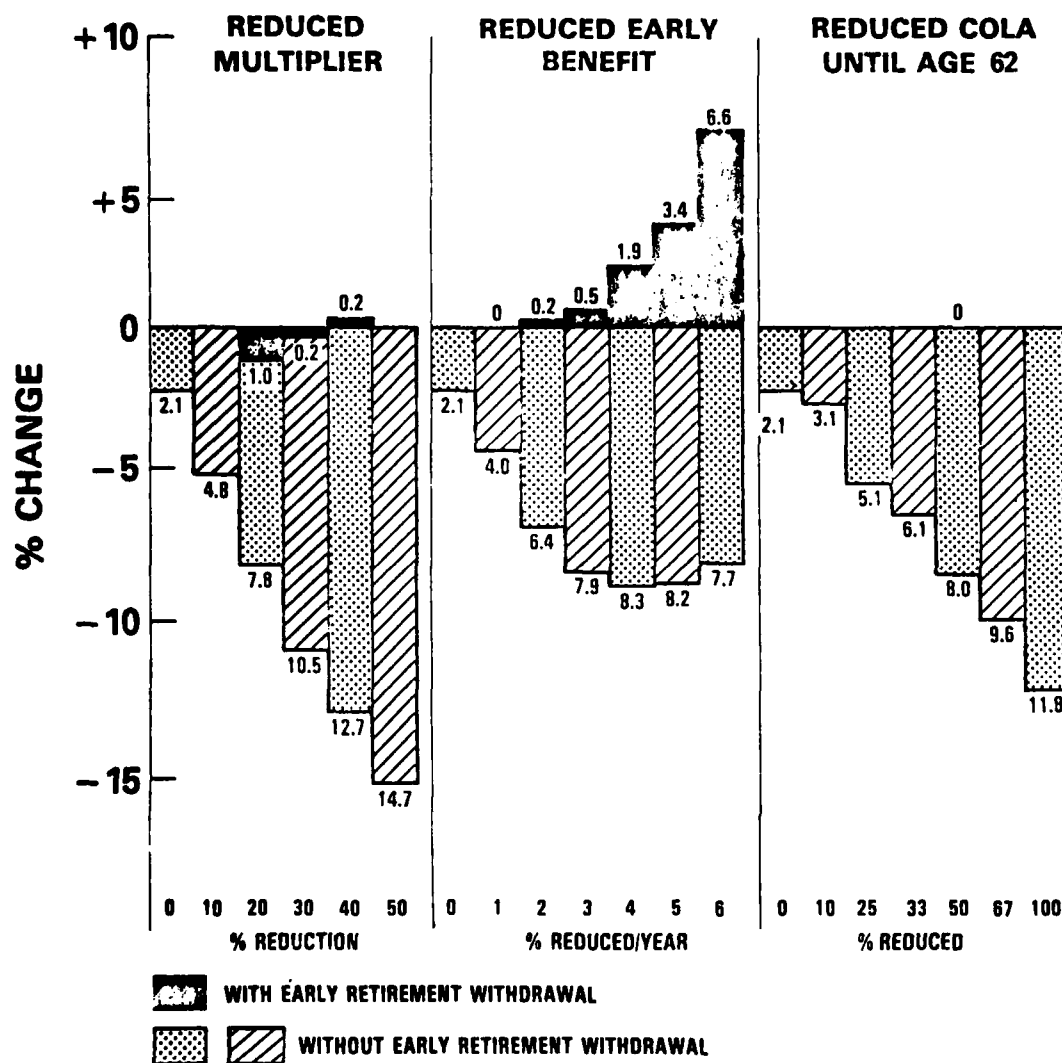


Figure XI-50
Career Force Impact - DoD Officers
(No Warrants)

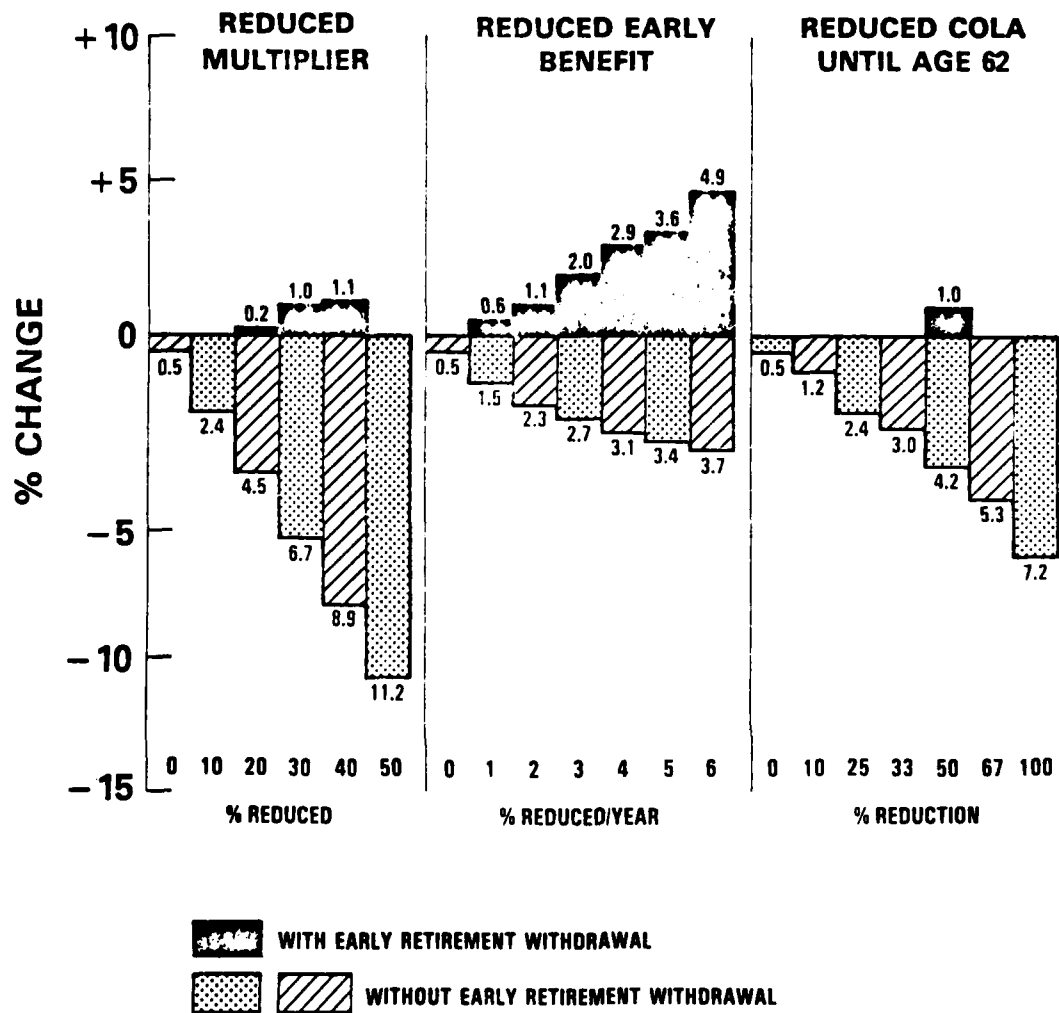


Figure XI-51
Late Career Impact - DoD Enlisted

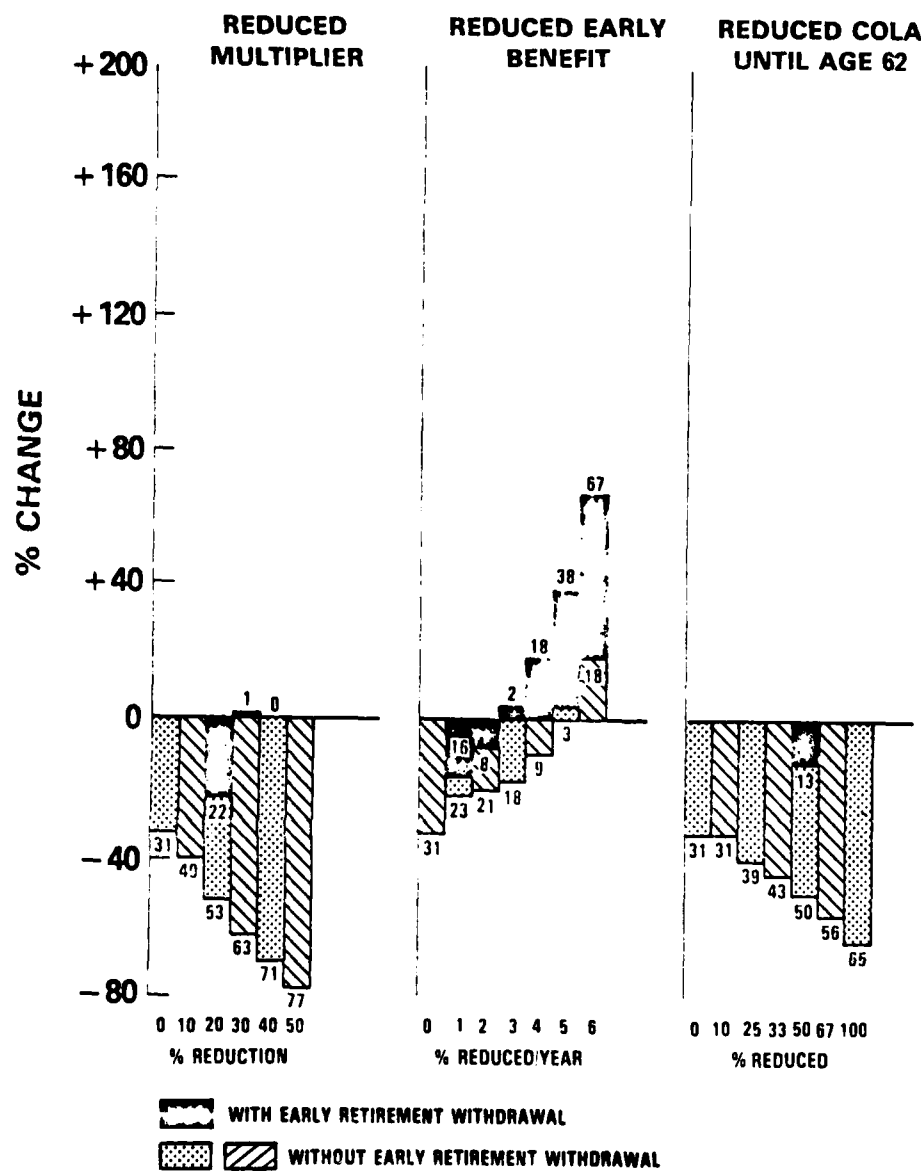


Figure XI-52
Late Career Impact - DoD Officers
(No Warrants)

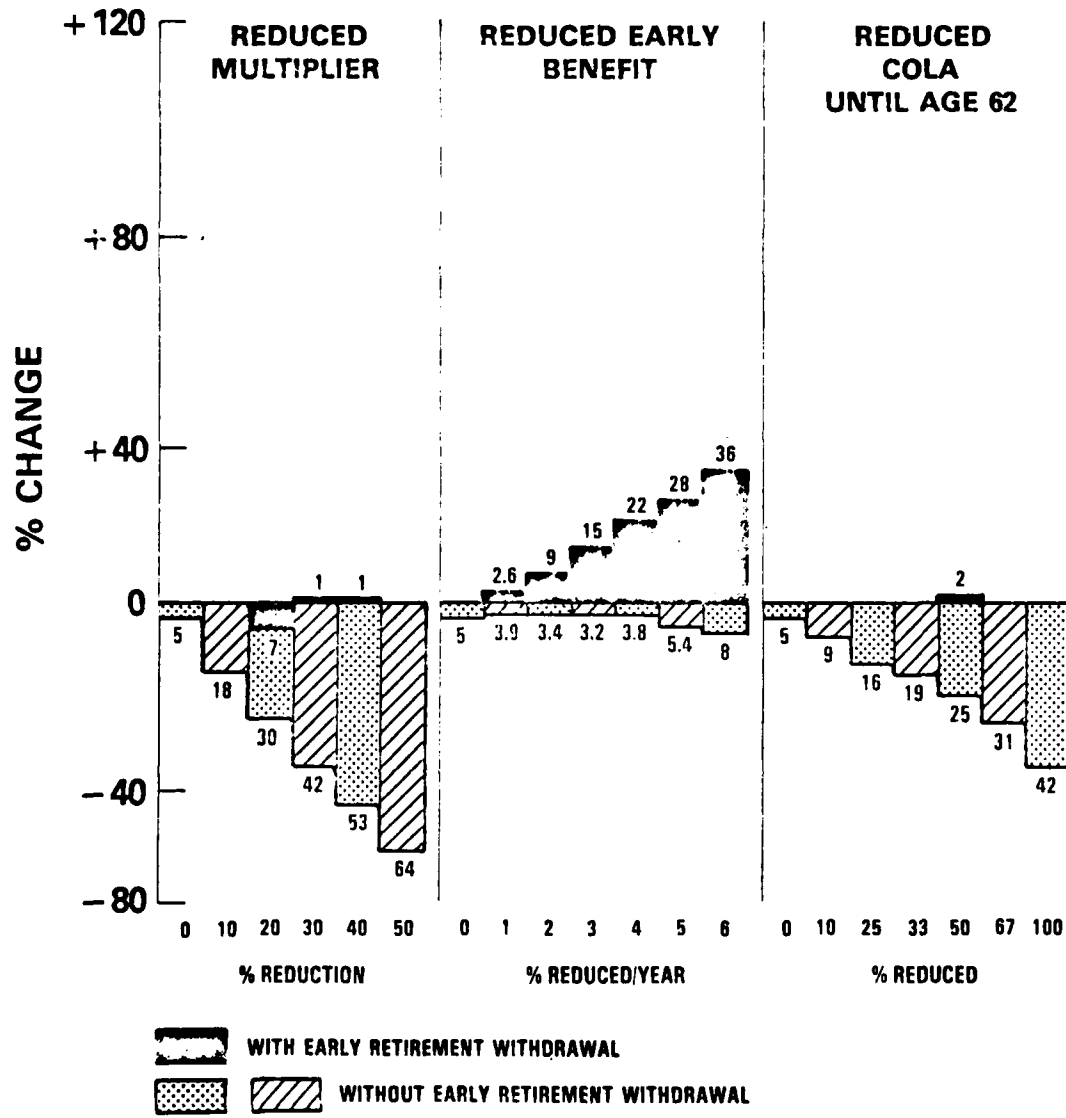


Figure XI-53

DOD OFFICER STRENGTH 5 - 30 YOS REDUCED MULTIPLIER

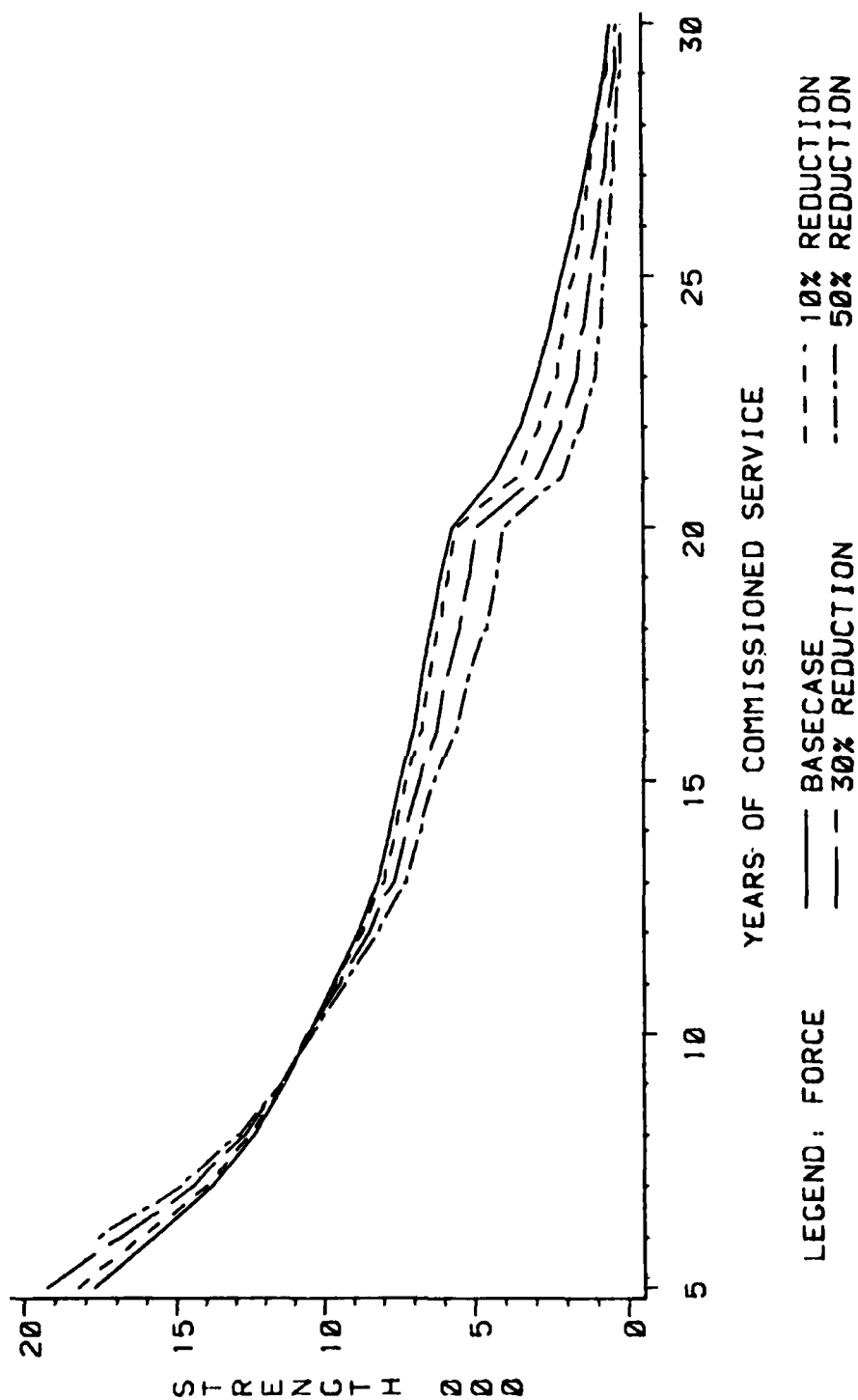


Figure XI-54

DOD OFFICER STRENGTH

5 - 30 YOS

REDUCED EARLY BENEFIT (PRE-30 YOS)

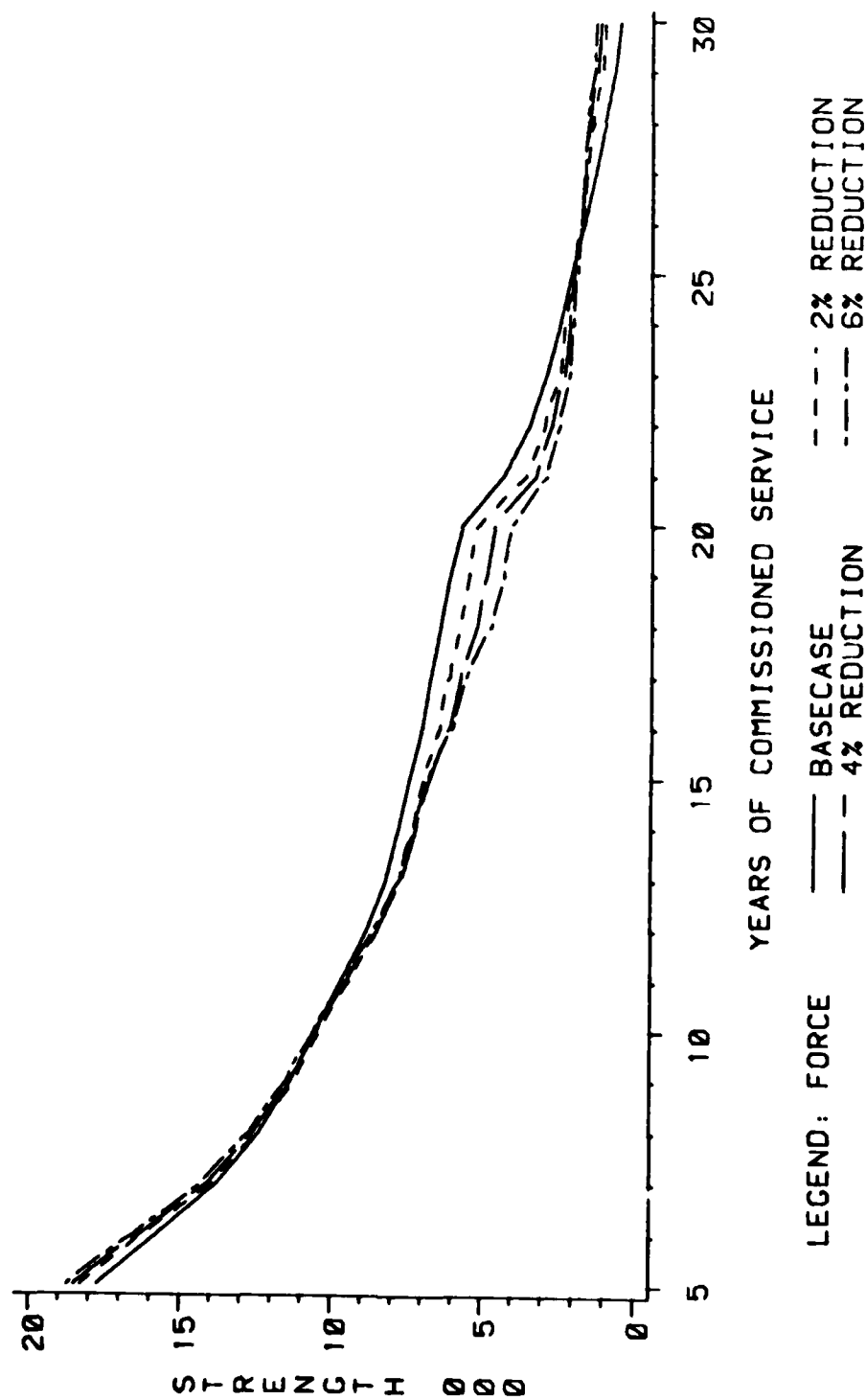
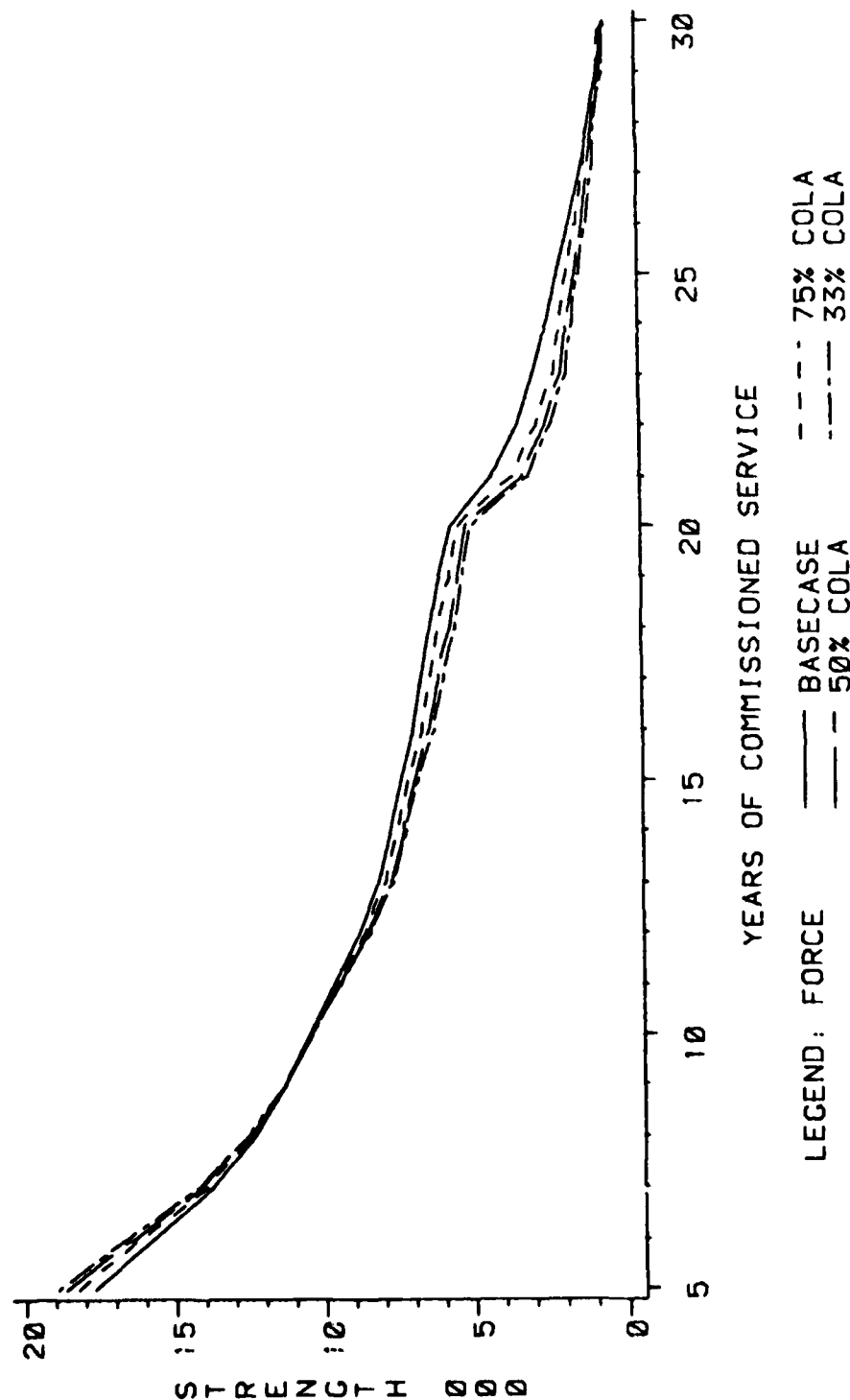


Figure XI-55

DOD OFFICER STRENGTH

5 - 30 YOS

REDUCED COLA UNTIL AGE 62



3. Long-Term Cost Aspects. Three costs are important in the long term. One is the annual Treasury trust fund outlay to retirees. This is obtained from the GORGO model retirement valuation projections. The remaining two costs are of concern to the DoD budget. These are the DoD force maintenance costs and the DoD accrual payment beginning in FY85. The first cost considerations to be made in reviewing whether the current retirement system can be strengthened is to determine the size of the retirement system cost reductions (reduced long-term cost) for each of these retired pay adjustments and then how to best reallocate it. This involved the calculation of the DoD normal cost percentage (NCP) for each alternative using the GORGO model. This gives us data on two of the three costs. The third cost consideration is the force maintenance cost. The use of the Defense Manpower Static Model (DMSM) and the ACOL model cost programs will tell how much, and in what category, force maintenance costs were changed.

To analyze the retirement costs, the calculation of the NCP for each specific type of retired pay change was required. Two new normal cost percentages were calculated for each change. The first NCP calculated was based upon the current actuarial rates which represent the projection of recent force profile experience as discussed earlier. This new NCP can then be compared to the current system NCP of 50.71% to estimate how the new DoD accrual payment would vary and, thus, any change in the annual DoD Total Obligation Authority (TOA). Caution should be taken to observe that the NCP of 50.71% is associated with the current retirement system using the HI-3 calculation. If the HI-3 were not used, the NCP for the base case would be 57.52%. This latter value is more correctly associated with the retirement system that produced the seven-year average (FY76-FY82) base case force profile. However, NCP values are forecast on future benefits of a new entrant cohort and thus all NCP and accrual payment comparisons will use 50.71%, even though the later analyses will attempt to restore the pre-HI-3 force strength profile.

The second NCP calculation is based on the resulting force profile from the ACOL model. The ACOL model data output was linked to the GORGO model using the Fifth QRMC interface program discussed in Section IX. This second or ultimate NCP is what today's NCP value would move toward over a period of 10 to 30 years, if the force changed as predicted by the ACOL model. For instance, if nothing more were done to change the current retirement system beyond the HI-3 change, then the 50.71% would ultimately become 45.25%. Table XI-29 gives both NCP values for selected retired pay changes, the principal force changes, and the DoD force costs (minus retirement outlays). The long-term retirement annual outlays (trust fund outlays) derived from ACOL are also shown based on constant FY82 dollars. The ACOL model costs are always less than the costs produced by DMSM; however, the differences are predictable and known. The ACOL costs are sufficiently accurate and reliable to use in evaluating the relative merits of each alternative. For example, the ACOL force maintenance cost for the combination alternative (75% COLA until age 62 and a 3% pre-30 YOS adjustment) was \$44.01 billion. The

DMSM cost for the same alternative was \$44.49 billion. The DMSM cost closely equates to actual cost because the model was validated against the actual FY82 force costs before it was provided for QRMC use.

An examination of Table XI-29 reveals that, with few exceptions, as the value of the retired pay benefit is reduced (progressively lower NCPs) the ACOL costs and the force strength changes move in the expected direction. For example, as the retirement costs go down, the accessions rise, and the career force decreases. The minor exceptions involve the different force strength effects of the pre-30 YOS adjustments (larger late career force, 21 to 30+ YOS). The major exception are the force maintenance costs. The expectation for the force maintenance costs was that these would be significantly higher due to increased accession and training costs. This is not the case. There were variations in the five categories of costs which make up the total DoD force cost as reflected in Table XI-29; however the variation in total costs is less than 2%. Note that these are all for constant FY82 size forces. (Appendix L contains the Service cost data for each of the specific retired pay adjustments in Table XI-17.)

Figures XI-56 and XI-57 display the NCPs calculated on the actuarial and ACOL rates for four specific types of retired pay adjustments. For example, from Figure XI-56, a 3% pre-30 YOS adjustment reduces the actuarial NCP about 21% and, in turn, reduces the PV at 20 YOS (ACOL) by 30%. For any percent reduction in the NCP, a corresponding reduction in the PV at 20-YOS point can be determined for a specific type of adjustment. The percent PV reduction can then be used to examine the appropriate figure in the Figure XI-23 through XI-46 series to determine the applicable force profile response (the PV reductions do vary slightly among the Services and between officer and enlisted forces). The solid lines for each specific adjustment represent the NCP reductions based on today's actuarial rates. The corresponding dotted lines represent the NCP reductions based on the ACOL data. As observed, the four dotted lines maintain their relative position and slope when compared to the appropriate solid line. Further, the amount of offset is constant because the origin was the ACOL HI-3 NCP. The exception is, again, the pre-30 YOS ACOL line, which begins to curve vertically as a direct result of a larger percentage of retirement eligible population in the ACOL force profiles starting at the 4% adjustment. The dotted line plot points can be identified by moving horizontally from the corresponding solid line, inasmuch as the percent PV reduction is the same for both. (For example a 3% and 4% ACOL value is plotted for the pre-30 adjustment, and at a 2.00 and 1.75 multiplier, etc).

Table XI-29
Retired Pay Adjustment Normal Cost and Force Considerations

Specific Retired Pay Adjustment	NCP Actuary Rates	Percent Change (vs 50.71)	NCP ACOL Rates	Percent Change (vs 50.71)	ACOL Costs* (FY82 Dollars) Force Retirement	Accessions Officer Enlisted	ACOL Force Strengths** Career Officer Enlisted
Basecase (NO HI-3)	57.52	+13.4	51.69	+1.9	44.46	25.76	176.14
0% Social Security	51.44	+1.4	45.25	-10.8	44.33	336.07	175.05
Basecase	50.71	-	45.90	-9.5	44.30	336.76	174.83
30% Social Security	50.05	-1.3					
37.5% Social Security	49.70	-2.0					
90% COLA - 30 YOS	49.27	-2.8			44.35	26.26	174.53
90% Social Security	48.37	-4.6			44.47	26.23	174.61
90% COLA - Age 62	47.85	-5.6			44.30	26.46	173.86
1% Pre-30 YOS	47.19	-6.9			44.32	26.58	173.45
75% COLA - 30 YOS	47.20	-6.9	40.98	-19.2	44.31	26.56	173.51
RMA	46.72	-7.9			44.21	27.07	171.58
67% COLA - 30 YOS	46.14	-9.0			44.29	26.71	172.99
2.25% Multiplier	45.78	-9.7			44.19	27.07	171.79
USBRA NO withdrawal	45.52	-10.2					
100% Social Security	45.31	-10.6			44.20	27.46	172.27
50% COLA - 30 YOS	43.99	-13.3	37.17	-26.7	44.25	345.25	170.27
75% COLA - Age 62	43.93	-13.4			44.18	347.12	172.08
2% Pre-30 YOS	43.67	-13.9			44.25	345.67	171.87
USBRA - Withdrawal	43.21	-14.8			44.48	349.08	172.10
67% COLA - Age 62	42.02	-17.1			44.46	330.21	172.92
33% COLA - 30 YOS	41.98	-17.2	34.88	-31.2	44.11	27.35	177.36
75% COLA for Life	41.65	-17.9			44.20	348.21	170.84
2.00% Multiplier	40.86	-19.4			44.09	27.15	171.41
3% Pre-30 YOS	40.15	-20.8	33.87	-33.2	44.02	350.34	171.00
NO COLA - 30 YOS	38.43	-24.2	33.94	-33.1	44.19	352.57	171.17
50% COLA - Age 62	38.30	-24.5			44.10	27.19	168.15
75% COLA/2% Pre-30	37.93	-25.2	31.39	-38.1	44.25	353.25	171.30
4% Pre-30 YOS	36.64	-27.7	30.68	-39.5	44.52	354.67	170.42
1.25% Multiplier	35.93	-29.1	30.62	-39.6	43.20	353.16	168.75
33% COLA - Age 62	35.02	-30.9	28.34	-44.1	44.87	356.60	169.20
75% COLA/3% Pre-30	34.93	-31.1			44.94	344.24	170.70
50% COLA for Life	34.91	-31.2	28.30	-44.2	44.01	357.43	166.80
67% COLA/3% Pre-30	33.45	-34.0	26.36	-48.0	43.92	359.30	166.80
5% Pre-30 YOS	33.12	-34.7			44.44	355.05	167.68
1.50% Multiplier	31.00	-38.9			44.25	360.80	167.60
25% COLA for Life	29.80	-41.2	21.47	-57.7	43.76	353.89	170.08
OSD 24B - PPSGCC	28.09	-43.0			43.81	365.40	160.36
NO COLA - Age 62	26.70	-47.3			43.81	361.72	164.69
1.25% Multiplier	26.07	-48.6			44.82	29.15	163.86
0% COLA for Life	25.85	-49.0			43.66	30.46	163.47
6% Pre-30 YOS	25.60	-49.5			43.68	31.66	163.47
OSD 26A - PPSGCC	19.91	-60.7			44.33	370.58	156.32
USAF - PPSGCC	6.92	-86.4	6.15	-87.9	43.77	367.16	162.13
						352.81	169.49
						372.93	153.60
						32.42	653.28
Baseline	50.71	-	47.08	-7.2	45.08	20.41	192.31
Current Objective	50.71	-	46.70	-7.9	45.13	22.28	184.74

* In billions ** In thousands

Table XI-30
ACOL DoD Force Costs (Minus Retirement Costs)*
(Constant FY82 Dollars - Billions)

Cost Category	Base Case		50% COLA Until Age 62		1.75 Multiplier		3% Pre-30		75% COLA 3% Pre-30	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
Gains	3.15	2.31	3.41	2.46	3.57	2.50	3.31	2.46	3.42	2.49
Maintenance	8.04	26.92	8.04	26.20	7.69	25.98	7.96	26.35	7.86	26.11
S&I Pays	0.39	1.03	0.47	1.01	0.45	1.00	0.45	1.00	0.45	0.99
Loss	0.12	0.46	0.14	0.49	0.14	0.50	0.13	0.49	0.14	0.49
Total	11.70	32.76	12.05	32.77	11.85	32.02	11.86	32.33	11.86	32.14
Overall** Total	44.46		44.25		43.87		44.19		44.01	

* See Appendix L for Service cost detail and Appendices H and I for explanation of what is included in each cost category.

** Includes \$2.04 in fixed training costs.

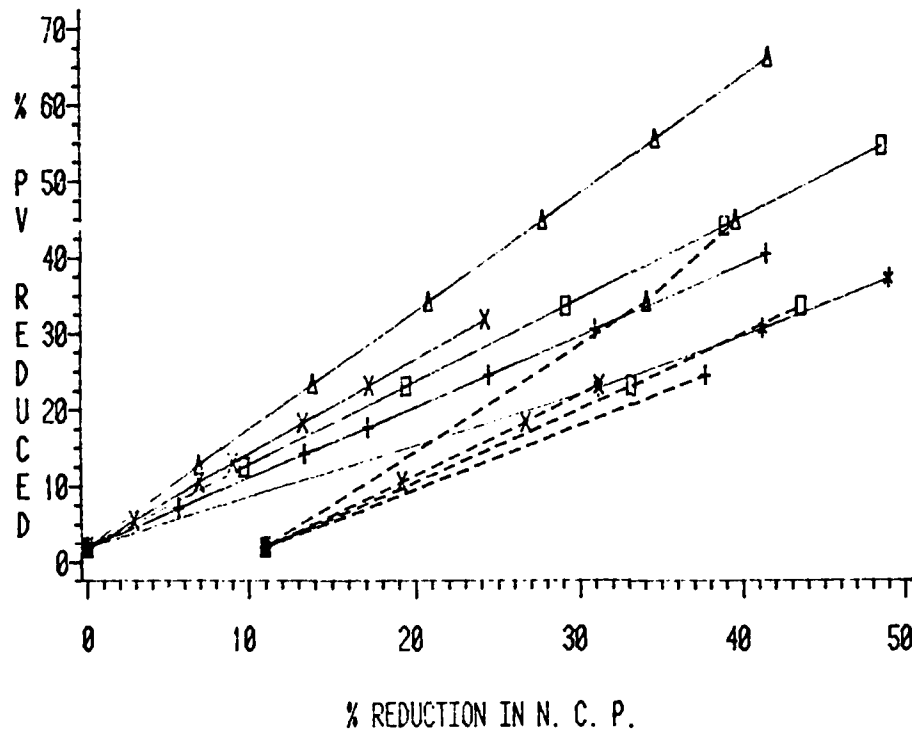
A general observation concerning the way a specific adjustment affects both the force profile and the DoD accrual payment (as well as the retiree's lifetime retired pay) can be derived from Figures XI-23 through XI-53, XI-56 and XI-57. For example, observe that for a 18% PV reduction, a 2.00 multiplier reduces today's NCP by 19.4% and ACOL NCP by 33.2%. At the same 18% PV reduction, a 50% COLA until age 62 reduced today's NCP by 24.5% and the ACOL NCP by 37.7%. Checking Figures XI-49 and XI-50, we observed that the 2.00 multiplier reduced the enlisted and officer career force by 7.8% and 4.5%, respectively. The 50% COLA reduction was about the same, 8.0% for enlisted and 4.2% for officers. Thus, a greater NCP reduction is possible with a COLA adjustment than with a multiplier for any given change in the career force. However, again, the concern arises about the stability of using COLA as a primary design factor.

Figure XI-57 is a blowup of the lower left quadrant of Figure XI-56. This was done to be able to show the actuarial NCP values for social security integration, the lower dotted line. The degree of integration was varied from zero (far left) to 100% (far right) and was always based on only Service covered earnings. The zero integration point would actually be an increase in today's NCP because it assumed the elimination of the integration of the Survivor Benefit Plan (SBP). About a 0.7 NCP percentage point increase (1.4%) would result, because the social security offset to SBP annuities would not occur. The first two plot points, moving to the right from the zero integration point, are for a 1.0% per year and a 1.25% per year integration for 0 to 30 YOS, respectively. Note that both have a smaller impact than a flat 30% integration, regardless of a retiree's YOS at retirement.

Figure XI-56

PERCENT CHANGE IN NORMAL COST PERCENTAGE

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE — PV AT 20 YOS)
SERVICE=DOD CATEGORY=ENLISTED



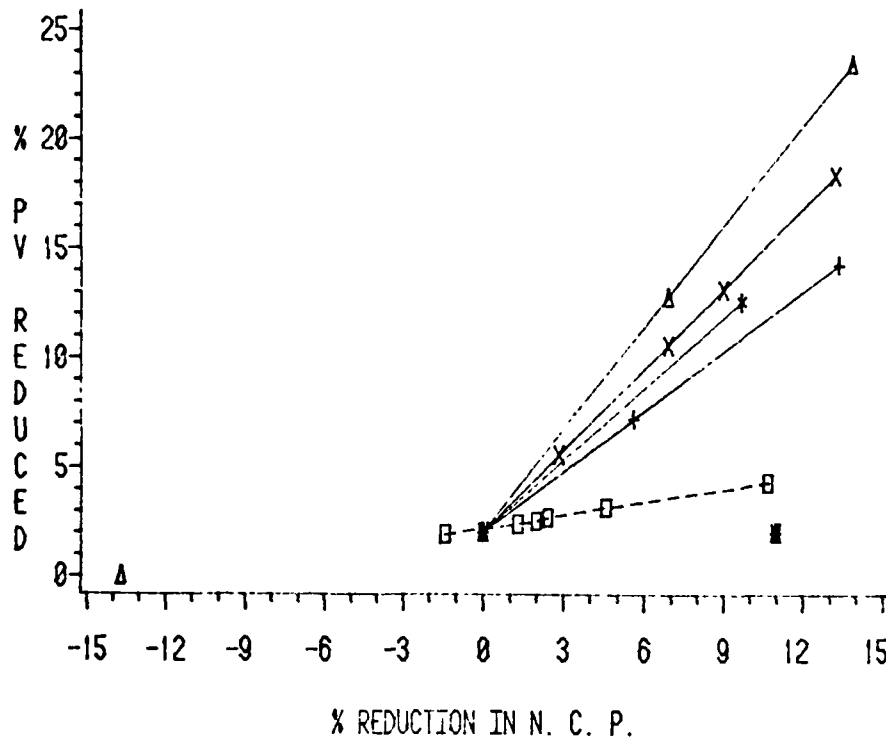
LEGEND: METHOD +++ COLA TO AGE 62 *** COLA TO 30 YOS
 - COLA FOR LIFE -*- MULTIPLIER
 -x-x PRE-30 (%/YR)

DOTTED LINES ARE ACOL NCP's.

Figure XI-57

PERCENT CHANGE IN NORMAL COST PERCENTAGE

DUE TO REDUCED RETIREMENT BENEFIT
(PRESENT VALUE -- PV AT 20 YOS)
SERVICE=DOD CATEGORY=ENLISTED



LEGEND: METHOD

+++ COLA TO AGE 62
--* MULTIPLIER
▲-▲-▲ PRE-30 (%/YR)

-x- COLA TO 30 YOS
□-□-□ SS OFFSET

4. Narrowing of Alternative Considerations. These were a very large number of possible alternative retired pay adjustments, based upon the data described in Section IX. The Fifth QRMC, in the course of its analyses, examined several hundred different specific adjustments. As with any large-scale, intricate analytical problem, the issue became one of narrowing the range of considerations. This was done based on several assumptions. The first assumption was that any resulting retirement system should be as good or better than an average composite of the better large private-sector retirement systems. Even the PPSSCC agreed with this premise, although their use of their comparative data resulted in proposals which did not address Service strength profile requirements and the force management of same. Based on the earlier Fifth QRMC comparisons with the private sector in Section VII.E., about a 30% lower benefit at the 20-YOS point met this criterion. Therefore, adjustments which produce a PV reduction at the 20-YOS point of between 20% to 40% were reviewed in detail.

Second, and in general agreement with the first assumption, was the desire to retain a viable level of monthly retired pay throughout a retiree's lifetime, consistent with the stated principles for the Service retirement system set forth in the Executive Summary and Section VIII.B. of this Volume. Furthermore, it also is compatible with the "institutional" philosophy of Services caring for their members, or the paternalistic view that retired pay should not be disbursed in such a way that it could seriously jeopardize or endanger the members later well being and, more importantly, their usefulness as a mobilization resource.

The third assumption concerned the degree of cost reallocation. It was recognized that a reduced retirement benefit would impact the required force profiles and, therefore, some or all of the retired pay cost reduction might be needed to restore the force profile to one of equal or better force effectiveness. The question then is, can this be done at reduced cost (i.e., a more cost efficient system) in keeping with the compensation principles of efficiency and equity. The alternative retired pay adjustments were originally examined in conjunction with a range of retired pay reallocations. These ten alternatives are described in Table XI-31. In addition, a number of retired pay variations were suggested by the Services and analyzed by the Fifth QRMC.

Four basic retired pay adjustment alternatives resulted from this overall effort. The four selected were numbers 3, 4, 7, and 9 from Table XI-31. The process of selecting these four combined the judgements of the Fifth QRMC technical staff about the alternatives' relative force impacts, cost and feasibility. As can be observed, there is one of each type of major adjustment and one combination. Before narrowing to these four, various reallocation methods for restoring the force were examined and discarded based on a sensitivity analysis. The remaining alternatives (Social Security, etc.) are discussed later in Section XI.C. Tables XI-32 through XI-35 give the impact of the four alternatives on the four individual DoD Service force profiles. These strength changes (like previous data) are relative to the seven-year average base case without the HI-3 adjustment and are consistent with the data in Figures XI-23 through XI-53.

Table XI-31
Alternative Description for New Service Entrants

<u>ALTERNATIVE NUMBER</u>	<u>COLA ADJUSTMENT</u>	<u>BENEFIT ADJUSTMENT</u>
1	50% to 30 YOS 100% thereafter	None
2	33% to 30 YOS 100% thereafter	None
3*	50% to age 62 100% thereafter	None
4*	Full	3% reduced for each year retired before 30 YOS
5	Full	4% reduced for each year retired before 30 YOS
6	Full	20% decrement resulting in a 2.00 multiplier
7*	Full	30% decrement resulting in a 1.75 multiplier
8	75% to age 62 100 thereafter	2% reduced for each year retired before 30 YOS
9*	75% to age 62 100% thereafter	3% reduced for each year retired before 30 YOS
10	67% to age 62 100% thereafter	3% reduced for each year retired before 30 YOS

Table XI-32
Impact of 50% COLA Alternative

FORCE IMPACT

	ARMY OFF / ENL	NAVY OFF / ENL	MARINES OFF / ENL	AIR FORCE OFF / ENL
YOS				
0	+ 729 / + 9,227	+ 496 / + 5,004	+ 124 / + 2,514	+ 801 / + 4,572
CAREER FORCE	-2,368 / -25,103	-1,699 / -15,784	- 434 / - 7,552	-2,802 / -15,446
EARLY/MID CAREER	- 772 / -14,730	- 849 / -10,387	- 177 / - 5,778	- 674 / - 5,672
LATE CAREER	-1,596 / -10,377	- 840 / - 5,397	- 257 / - 1,774	-2,128 / - 9,774

Table XI-33
Impact of 1.75% Multiplier Alternative

FORCE IMPACT

	ARMY OFF / ENL	NAVY OFF / ENL	MARINES OFF / ENL	AIR FORCE OFF / ENL
YOS				
0	+1,200 / +12,696	+ 820 / + 6,841	+ 196 / + 3,374	+1,256 / + 6,370
CAREER FORCE	-3,872 / -34,335	-2,810 / -21,584	- 684 / -10,117	-4,378 / -21,477
EARLY/MID CAREER	- 996 / -21,301	- 968 / -14,404	- 234 / - 7,746	- 794 / - 9,046
LATE CAREER	-2,876 / -13,034	-1,842 / - 6,864	- 450 / - 2,371	-3,584 / -12,431

Table XI-34
Impact of 3% Pre-30 Alternative

FORCE IMPACT	ARMY		NAVY		MARINES		AIR FORCE	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
YOS								
0	+ 455	+ 5,287	+ 264	+ 4,163	+ 64	+ 2,078	+ 478	+ 2,020
CAREER FORCE								
5-30+	-1,529	-14,473	- 925	-13,201	- 223	- 6,325	-1,704	- 6,877
5-20	-1,277	-12,981	-1,417	-12,402	- 294	- 5,806	-1,832	- 5,599
LATE CAREER								
21-30	- 252	- 1,762	- 492	- 799	+ 71	- 519	+ 128	- 1,278

Table XI-35
Impact of Combination Alternative

FORCE IMPACT	ARMY		NAVY		MARINES		AIR FORCE	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
YOS								
0	+ 751	+ 8,501	+ 449	+ 5,901	+ 105	+ 2,899	+ 751	+ 3,553
CAREER FORCE								
5-30+	-2,507	-23,393	-1,565	-18,671	- 367	- 8,777	-2,666	-12,023
5-20	-1,301	-18,268	-1,464	-15,492	- 310	- 7,432	-1,773	- 7,713
LATE CAREER								
21-30	-1,206	- 5,125	- 101	- 3,179	- 57	- 1,345	- 893	- 4,310

5. Earning's Sensitivity and Refinement. During a final review of the Fifth QRM analysis effort, several adjustments were necessary to both the Service and civilian earnings data used in the ACOL model because of some earlier inadvertent errors. These adjustments provided the opportunity to do a limited analysis of the four specific alternatives to changes in either of the two current compensation streams and the relative differences. This contributed to a more general and fundamental understanding of the complex interaction of all the variables and how to use them in the design of a strengthened retirement system.

Minor refinements in the Special and Incentive pays were made for each Service based upon analyses of individual Service finance tapes. The larger changes however, were required in the civilian wage earnings. During the final review of the ACOL data sets, it was determined that the civilian wage earnings taken from the 1979 Census data had been double indexed in the process of inflating from 1979 to 1982 values. Also, additional information recently became available which allowed the officer Service pay stream to be better matched against college-graduate-equivalent civilian wage streams. The changes in the civilian wage streams are reflected in Figures XI-58 and XI-59. The percent and actual dollar changes are depicted for the civilian wage stream equivalents for officers and enlisted. As can be seen, the civilian wage level for enlisted decreased an average of 12% over the 18-58 age spectrum, while the officer civilian equivalent rose an average of 2%. The officer increase is the net effect of wage streams being matched against college-graduate level employment which produce a higher wage scale even after correcting for the double indexing.

The effect of these earnings changes can be observed using the data in Table XI-36 which provides the old and new DoD force profile strength changes relative to the seven-year average base case. New Service data is contained in Appendix L. Table XI-37 updates the costs on Table XI-30. Note how slight the cost differences are relative to the force strength changes. Table XI-38 gives the percentage strength changes for values in Table XI-59.

Figure XI-58

OLD VERSUS NEW CIVILIAN WAGE STREAMS

RELATIVE DOLLAR CHANGE

* Old civilian wage stream for enlisted comparison was higher. Old officer civilian wage stream was lower.

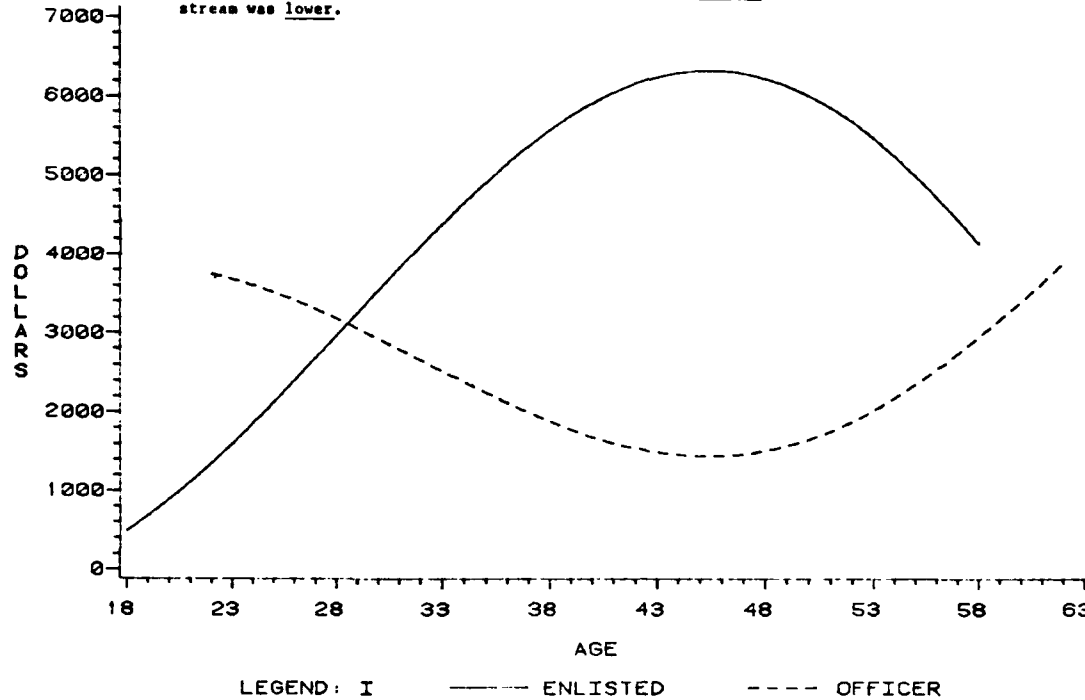


Figure XI-59

OLD VERSUS NEW CIVILIAN WAGE STREAMS

RELATIVE PERCENTAGE CHANGE

* Old civilian wage stream for enlisted comparison was higher. Old officer civilian wage stream was lower.

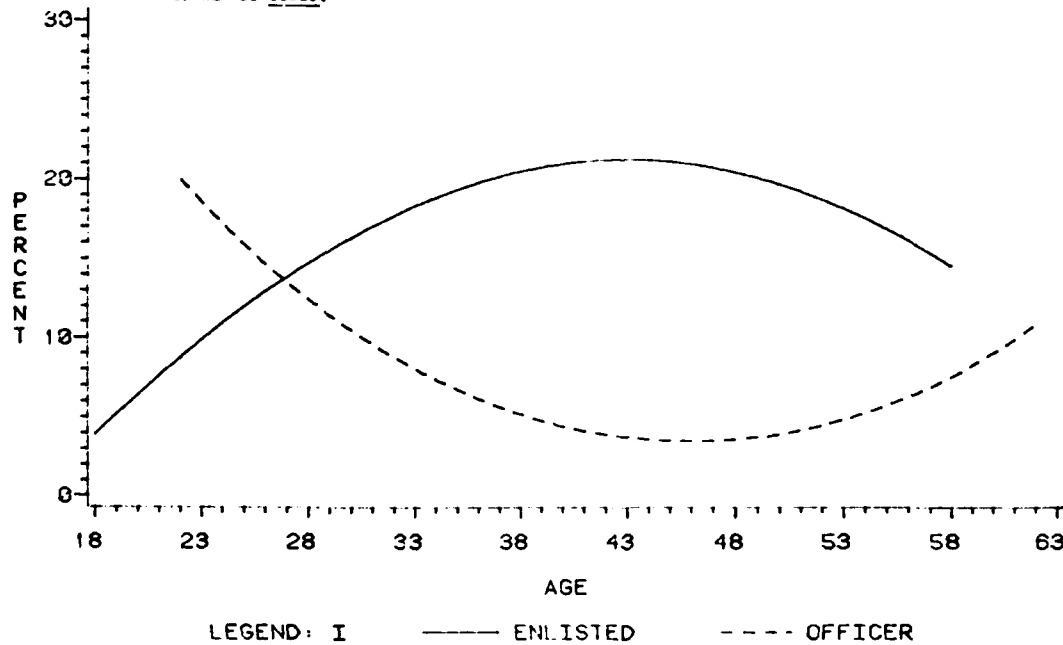


Table XI-36
Impact of Relative Earnings Variation
(Actual Strength Change)

Alternative		DoD Officer		DoD Enlisted	
		OLD	NEW	OLD	NEW
50% COLA Until Age 62:	Accessions	+ 2,190	+ 2,150	+20,610	+21,317
	Career Force	- 7,391	- 7,303	-61,600	-63,885
	5-20 YOS	- 2,651	- 2,472	-33,775	-36,567
	21-30 YOS	- 5,174	- 5,163	-27,599	-27,167
	31+ YOS	+ 434	+ 332	- 234	- 151
1.75% Multiplier:	Accessions	+ 3,505	+ 3,472	+27,234	+29,281
	Career Force	-11,809	-11,744	-81,275	-87,477
	5-20 YOS	- 3,110	- 2,992	-46,414	-52,497
	21-30 YOS	- 8,625	- 8,622	-34,527	-34,675
	31+ YOS	- 74	- 130	- 334	- 305
3% Pre-30 YOS:	Accessions	+ 1,414	+ 1,261	+20,699	+13,548
	Career Force	- 4,879	- 4,381	-61,446	-41,146
	5-20 YOS	- 5,344	- 4,820	-52,046	-36,788
	21-30 YOS	- 699	- 528	- 9,629	- 4,839
	31+ YOS	+ 1,134	+ 967	+ 299	+ 481
Combination: (75% COLA until Age 62 and 3% Pre-30 YOS)	Accessions	+ 2,228	+ 2,056	+26,708	+20,854
	Career Force	- 7,665	- 7,105	-79,398	-62,864
	5-20 YOS	- 5,405	- 4,848	-60,747	-48,905
	21-30 YOS	- 3,267	- 3,177	-18,712	-14,247
	31+ YOS	+ 1,007	+ 860	+ 61	+ 288

Table XI-37
New ACOL DoD Force Costs (minus Retirement Costs)
(Constant FY82 Dollars - Billions)
No Reallocations

Cost Category	Base Case		50% COLA Until Age 62		1.75 Multiplier		3% Pre-30		75% COLA 3% Pre-30	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
Gains	3.15	2.31	3.41	2.46	3.57	2.52	3.29	2.41	3.39	2.46
Maintenance	8.04	26.92	7.84	26.19	7.69	25.95	7.97	26.55	7.87	26.29
S&I Pays	0.39	1.03	0.47	1.01	0.38	1.00	0.38	1.00	0.39	1.00
Loss	0.12	0.46	0.14	0.49	0.14	0.50	0.13	0.48	0.13	0.49
Total	11.70	32.76	11.76	32.77	11.78	32.00	11.77	32.48	11.77	32.27
Overall** Total	44.46		44.25		43.87		44.19		44.01	

* See Appendix L for Service cost detail and Appendices H and I for explanation of what is included in each cost category.

** Includes \$2.04 in fixed training costs.

Table XI-38
Comparative Percentage Impact
of Updated Civilian/Service Earnings

<u>ALTERNATIVE</u>	<u>FORCE PROFILE IMPACT</u>				
	<u>Accessions</u>		<u>Career Force</u>		<u>21-30 YOS</u>
	<u>OLD</u>	<u>NEW</u>	<u>OLD</u>	<u>NEW</u>	<u>NEW</u>
<u>OFFICERS</u>					
50% COLA	+8.5%	+8.3%	-4.2%	-4.2%	-25.0%
1.75 Multiplier	+13.6%	+13.4%	-6.7%	-6.7%	-42.0%
3% Pre-30	+5.5%	+4.9%	-2.7%	-2.5%	- 2.6%
Combination	+8.6%	+8.0%	-4.4%	-4.0%	-15.0%
<u>ENLISTED</u>					
50% COLA	+6.2%	+6.4%	-8.0%	-8.3%	-50.0%
1.75 Multiplier	+8.2%	+8.8%	-10.5%	-11.3%	-63.0%
3% Pre-30	+6.2%	+4.1%	-7.9%	-5.3%	- 9.0%
Combination	+8.3%	+6.3%	-11.0%	-8.1%	-16.0%

As observed from Table XI-36, the COLA and multiplier adjustments are less sensitive to a relative current compensation change than a pre-30 YOS adjustment. This is true for both officers and enlisted personnel. The enlisted differences are greater because of the greater average change in the relative civilian wages. The effect in the enlisted force profiles are opposite for the pure COLA and multiplier cases (a more severe impact) than for the pure pre-30 YOS or combination adjustment. Again, the incentive created by the steeper growth of retired pay between 20 and 30 YOS causes this different effect. As will be observed later, by keeping the relative difference between Service and civilian current compensation small, a more cost efficient change can be made to the retirement system. Also, it is observed that, if a ratio of 1.0 between the reallocation for officers and enlisted could be achieved, then the reallocation amount could be smaller. Two factors govern how close to the 1.0 ratio is feasible. For our earlier, but erroneous, civilian income streams, the ratio was about 1.5. The change in civilian income streams reduced this to about 1.25. This relationship between the income differentials (civilian compared to Service) for both officers and enlisted is one of the two factors. The second is how close the officer and enlisted pay streams are to one another. That ratio for a normal paygrade progression is initially about 1.5 and grows to about 2.0 at 20-YOS. Clearly the relative difference between the civilian and Service income (the first factor) demonstrated the larger influence in this analysis.

6. Reallocation of Retirement Costs. The next part of the Fifth QRMCM retired pay adjustment analysis examined the possible redistribution of current (basic pay, etc.) and deferred (retired pay) compensation to determine if the force effectiveness, which goes down as a result of the retirement changes discussed above, could be restored or improved. As discussed earlier in Section X, there are three basic types of retirement cost reallocation (or redistribution). Logically, these three types of reallocation bound the issue which, simply expressed, is: Do we restore some now, restore some later, or do we need to restore any at all? Further, how much must be restored in each case? First, the reduction to the retired pay could be restored at a selected age or the anniversary of a given length of service had the retiree remained on active duty. This type was called a RESTORAL and had the advantage of not increasing actual current budget outlays; however, it does increase the retirement system normal cost percentage. In the COLA adjustment, the RESTORAL was at age 62 and for all other adjustments it was at the 30-YOS point.

The second type of reallocation involved the payment of a part of a retiree's earned benefit at the completion of one or more total years of service (all such payments were at the end of 20 YOS or more). This type payment was called an EARLY WITHDRAWAL (EW). In the COLA and multiplier adjustments, it was necessary to make multiple EWs in order to realize the same approximate force profile as the seven year average base case. In the pre-30 YOS and combination adjustments only EWs at 20 YOS

were required. A wide range of EWs (both amount and when the member became eligible) were analyzed. In each case, the EW is expressed as a percentage of a member's annual basic pay in the designated year of eligibility.

The third reallocation analyzed was to increase the level of current compensation (called CURRENT) to all servicemembers, starting at a designated YOS and continuing for all or a portion of their remaining years of service. This increase in monthly pay was not put into basic pay to avoid feeding back into and increasing the retired pay. As such, it was considered another special pay. Several variations were tried. In each case, the pay has been expressed as a percentage of a member's basic pay.

Table XI-39 displays the revised DoD force profile percentage changes for each of the four adjustments i.e., the results for the RESTORAL, the EARLY WITHDRAWAL, and two different CURRENT (special pay) reallocations. The CURRENT reallocations were designed to produce about the same retirement system normal cost percentage as the EARLY WITHDRAWAL. (Table L.C.5, Appendix L, contains the actual associated strength data. Figures L.C.1 through L.C.20 plot the strength for 5-30 YOS for DoD and the Services.) The associated normal cost percentages, DoD force costs and trust fund retirement costs are displayed in Table XI-40. Caution should be taken in interpretation of these results, since they are long-term force profiles (steady-state) and are useful primarily for comparative alternative analysis. The retirement and reallocation costs are based upon the ACOL force profiles and, therefore, can not be directly compared to today's actual outlays. The flat special pays were paid to all servicemembers (0-30+ YOS) at a rate of 5.2% for the 50% COLA, 6.8% for the 1.75% multiplier and 3% pre-30 YOS, and 8.5% for the combination. The tapered special pays were: (1) 50% COLA, 5.3% for 5-12 YOS and 10.6% for 13+ YOS; (2) a 1.75% multiplier and 3% pre-30 YOS, 6.9% for 5-12 YOS and 13.8% for 13+ YOS; and (3) a combination of 8.6% for 5-12 YOS and 17.2% for 13+ YOS. Table XI-41 describes the EW amounts and eligibility points.

Table XI-39

XI-78

Table XI-40
Reallocation Alternative Cost Data*

ALTERNATIVE		RESTORAL	EARLY WITHDRAWAL	CURRENT	
				Flat Special Pay	Tapered Special Pay
50% COLA	NCP: Current	45.91% (9.5)**	43.61% (14.0)	43.61% (14.0)	43.61% (14.0)
	ACOL	38.72% (23.6)	40.94% (19.3)	38.30% (24.5)	39.30% (22.5)
	Force	\$44.05	\$44.48	\$44.15	\$44.36
	Retirement	\$11.71	\$10.21	\$ 9.36	\$ 9.83
	Reallocation	-	\$ 1.29	\$ 1.28	\$ 1.19
1.75% Multiplier	NCP: Current	46.16% (9.0)	42.89% (15.4)	42.89% (15.4)	42.84% (15.5)
	ACOL	36.67% (27.7)	41.00% (19.0)	37.27% (26.5)	38.14% (24.8)
	Force	\$44.39	\$44.56	\$43.98	\$44.22
	Retirement	\$ 8.60	\$ 9.91	\$ 8.73	\$ 9.25
	Reallocation	-	\$ 1.81	\$ 1.65	\$ 1.50
3% Pre-30 YOS	NCP: Current	46.70% (7.9)	47.11% (7.1)	47.11% (7.1)	47.11% (7.1)
	ACOL	40.76% (19.6)	44.12% (13.0)	43.97% (13.3)	46.79% (7.7)
	Force	\$44.43	\$44.64	\$44.67	\$45.15
	Retirement	\$10.86	\$11.95	\$12.11	\$13.19
	Reallocation	-	\$ 1.47	\$ 1.64	\$ 1.77
Combination	NCP: Current	44.28% (12.7)	43.59% (14.0)	43.58% (14.1)	43.54% (14.1)
	ACOL	37.61% (25.8)	40.62% (19.9)	40.42% (20.3)	43.67% (13.9)
	Force	\$44.27	\$44.61	\$44.53	\$45.12
	Retirement	\$ 9.63	\$10.34	\$ 9.91	\$11.20
	Reallocation	-	\$ 1.94	\$ 2.14	\$ 2.20

* Base case comparative figures are a NCP of 50.71% (HI-3), force of \$44.47, retirement of \$13.36.
Cost in billions.

** Number in () is % NCP reduction compared to 50.71%.

Table XI-41
Alternative Description for New Service Entrants
of EARLY WITHDRAWAL Reallocations

<u>COLA ADJUSTMENT</u>	<u>BENEFIT ADJUSTMENT</u>	<u>EARLY WITHDRAWAL (% OF ANNUAL BASIC PAY)</u>
50% to age 62 100% thereafter	None	160% to 20 YOS 40% to 23 YOS 50% to 27 YOS
Full	30% decrement resulting in a 1.75 multiplier	210% to 20 YOS 60% to 23 YOS 100% to 27 YOS
Full	3% reduced for each year retired before 30 YOS	210% at 20 YOS
75% to age 62 100% thereafter	3% reduced for each year retired before 30 YOS	200% at 20 YOS (Officers) 300% at 20 YOS (Enlisted)

The data in Table XI-39 should be examined by making both lateral and vertical comparisons. A lateral examination of Tables XI-39, XI-40, and XI-41 makes it clear that the RESTORAL reallocation is less efficient than either of the other two types of reallocation. This can be seen by looking at the relative strength gains, the amount the CURRENT NCP increased, and the increased combined retirement and reallocation costs. In every reallocation cost calculation, the cost associated with reallocation has been treated as a part of the retirement trust fund (i.e., paid into trust fund as part of DoD accrual payment) and subsequently paid out of the fund. For the CURRENT compensation reallocation this is a questionable procedure, but the cost differences for this method and a normal budget process are negligible. For RESTORAL and EARLY WITHDRAWALS this is the correct procedure, because it truly is deferred compensation but paid in an earlier time frame in a retiree's life.

Continuing with the lateral comparison, the relative cost efficiency of the 3% pre-30 YOS RESTORAL is close to the 3% pre-30 YOS EARLY WITHDRAWAL alternative, but checking several other specific pre-30 adjustments confirmed the RESTORAL to be inferior. These other specific adjustments entail comparing the absolute strength gain percentage (Table XI-38 compared to Table XI-39) and the relative cost increases (Tables XI-29 and XI-37 to XI-41) and then calculating the cost per percentage point of strength change. For the 3% pre-30 YOS reallocations in question, the RESTORAL NCP reduction decreased by 12.9% (20.8% minus 7.9%) compared to 13.7% for the EARLY WITHDRAWAL. However, the officer

and enlisted career force percentage increases were significant for the EARLY WITHDRAWAL (+4.6% and +8.2%) compared to RESTORAL (+1.0% and +1.7%). To help amplify this observation a 1% pre-30 YOS alternative was reviewed for the two kinds of reallocation. The result is the same and is shown in Figure XI-60.

Next, it is observed laterally that the COLA and multiplier alternatives with the EARLY WITHDRAWAL are clearly better than either of the corresponding current compensation reallocation alternatives. This is again evident by observing the shape of the relative force profiles, as well as by calculating the percentage cost increase in either the NCP or the retirement (including the reallocation cost) for a given percentage strength improvement in the career force. For the Combination alternative, the tapered special pay (CURRENT compensation) is more efficient in restoring a larger sized career force. However, there is a major difference in how it shapes the career force. In the case of the EARLY WITHDRAWAL Combination alternative, the career force was enhanced in a balanced manner with the 5-20 YOS portion being significantly strengthened. The latter is in direct support of improving the career force to meet the Services' stated force profile requirements. Conversely, the tapered CURRENT compensation reallocations for both the Combination and Pre-30 YOS alternatives increase the strength very heavily in the 21-30+ YOS part of the career force. The very large population in 21-30 YOS would not support the stated Service requirements. Furthermore, it would create a serious long-term force management problem because of stagnation (superannuation) and promotion flow.

To test this observation further, Table XI-42 displays the resultant DoD force profile changes if all the retirement pay reduction realized from the Combination alternative were put into either an EARLY WITHDRAWAL or a form of CURRENT compensation. As can be observed, a very healthy improvement results from both reallocations; however, the same late career force enlargement results from the CURRENT compensation reallocation. The resultant force retirement and reallocation total annual costs are also higher than the base case (\$65 billion compared to \$61 billion).

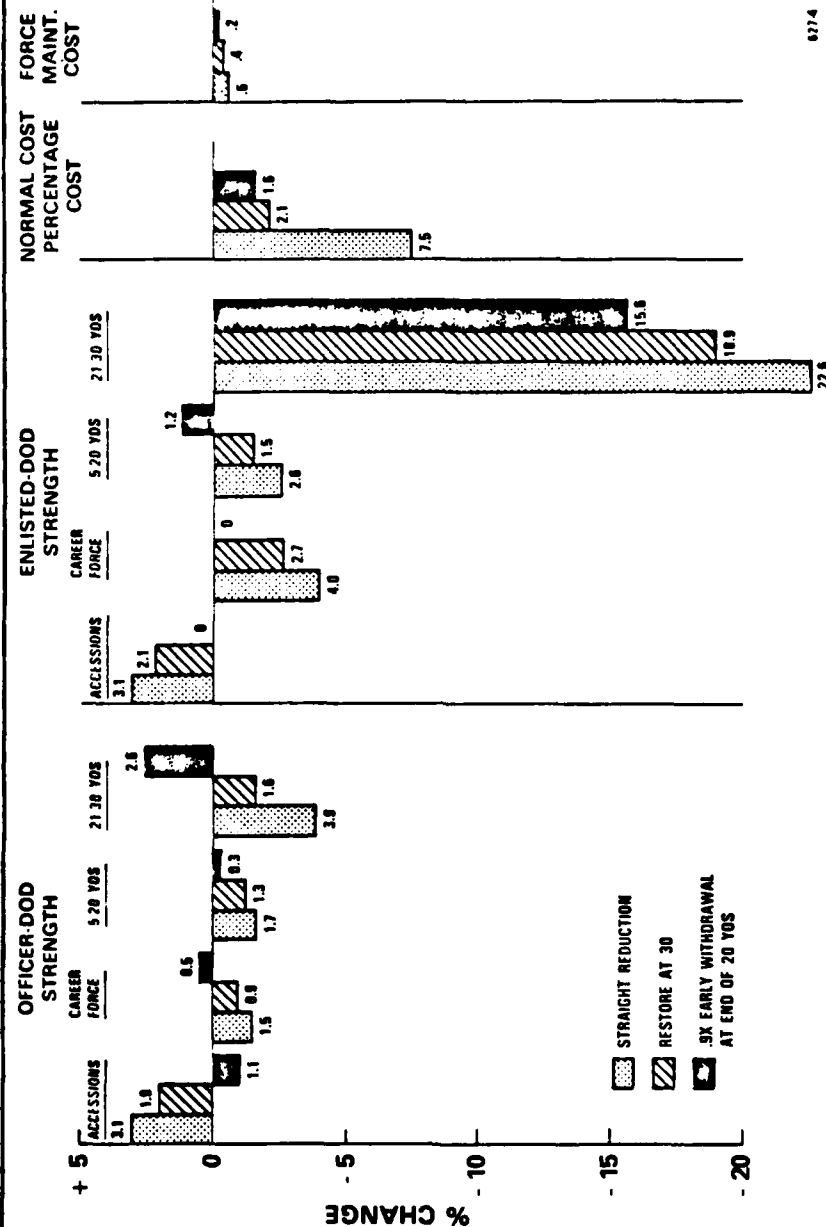
To test this same observation about relative cost efficiency for the Combination alternative with a reallocation that produce NCPs lower than 43.59%, and using different distributions for the CURRENT compensation that would be paid, two reallocation variations were constructed and examined. Table XI-43 displays the results and again confirms the previous observation regarding the efficiency of the EARLY WITHDRAWAL combination-type alternative to best meet the Services' requirements. Further, the highest total cost reallocation alternative for each of the two NCPs is the CURRENT compensation reallocation compared to the EARLY WITHDRAWAL.

The vertical cost efficiency comparison of the four EARLY WITHDRAWAL reallocation alternatives is contained in the later part of this section.

Figure XI-60



1% PER YEAR REDUCTION FOR EACH YEAR BEFORE 30 YOS



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Table XI-42

Comparison of Equal Cost Actuary NCP Variants of
75% COLA until 62 with 3% Pre-30 YOS
(NCP = 50.71% -- DoD Force Profile)

CURRENT Compensation Payment (15.8% in YOS 5-8, 31.6% in YOS 9 and up)		Maximum EARLY WITHDRAWAL (365%/547%) at 20 YOS		
	<u>OFFICER</u>	<u>ENLISTED</u>	<u>OFFICER</u>	<u>ENLISTED</u>
Accessions	- 5,035	-59,206	-1,933	-34,120
Career Force	+16,812	+175,226	+6,273	+ 99,752
5-20 YOS	- 4,372	+ 59,637	+2,368	+ 90,248
21-30 YOS	+14,242	+ 99,527	+2,580	+ 8,821
31+ YOS	+ 6,942	+ 16,062	+1,325	+ 683
Cost - Force	\$46.47B			\$45.05B
Retirement	\$13.62B			\$11.67B
Reallocation	\$ 4.91B			\$ 4.09B
Total	\$65.00B			\$60.82B

Table XI-43
CURRENT Compensation Compared to EARLY WITHDRAWAL
(Combination Alternative)

	Variation 1*			Variation 2**		
	CURRENT Comp	EARLY WITHDRAWAL		CURRENT Comp	EARLY WITHDRAWAL	
A. Percentage Strength Changes	OFF	ENL	OFF	ENL	OFF	ENL
Accessions	- 2.9	- 1.5	+ 0.5	- 0.9	- 3.8	- 2.3
Career Force	+ 1.3	+ 1.7	- 0.4	+ 0.9	+ 1.7	+ 2.7
5-20 YOS	- 1.5	-	- 1.0	+ 1.4	- 1.9	-
21-30+ YOS	+22.0	+24.2	+ 4.6	- 5.9	+28.6	+38.4
					+ 3.7	- 7.2

B. Normal Cost
Percentage (NCP) 41.63% (17.9)

41.15% (18.9)

C. Costs

Force	\$44.59B	\$44.48B	\$44.73B	\$44.45B
Retirement	10.21	9.95	10.35	9.85
Reallocation	1.46	1.42	1.43	1.31
Total	\$56.26B	\$55.86B	\$56.51B	\$55.61B

* Variation 1 is 0% for 0-4 YOS, 6% for 5-8 YOS, 8% 9-12 YOS and 14% for 13-24 YOS. EARLY WITHDRAWAL is 155% for officers and 232% for enlisted both at end of 20 YOS to produce an equal cost NCP.

** Variation 2 is 0% for 0-4 YOS, 6% for 5-12 YOS and 12% for all remaining YOS. EARLY WITHDRAWAL is 144% for officers and 216% enlisted, both at end of 20 YOS to produce an equal cost NCP.

7. Variations of EARLY WITHDRAWAL Amount. A sensitivity check was made to examine variations in the DoD force profile with changes in the amount of the EARLY WITHDRAWAL (EW). The Combination alternative was used for this analysis and the amounts of EW were varied from zero (an NCP of 34.93%) to that amount which would produce the current NCP of 50.71% (365% for officer and 547% for enlisted). This was based on an extensive sensitivity analysis using the old income data. This was updated and the EARLY WITHDRAWAL values changed to 413% and 516%, respectively. The results of this sensitivity check, now using new income data, are displayed in Figures XI-61 through XI-64. In each figure, the actual strength or percentage change is plotted relative to the seven-year base case. The latter is represented by the horizontal zero line. The individual plots are nearly linear. There is some curvature which results from internal movement within the career force as shown by the different slope of the 5-20 YOS and 21-30 YOS lines. Again, the greater sensitivity of the enlisted force to change is evident by examining the relative slopes in Figures XI-63 and XI-64. Only the officer accession percentage change varies more than the enlisted. The changes to the 5-20 YOS part of the officer career force are much less sensitive than the enlisted force to the EW variation. Overall, if just the base case profile were desired, an officer EW of about 170% and an enlisted EW of about 210% would suffice, except for the enlisted late career force losses. The next paragraphs will examine in more detail the required variations in the EW levels, and the effect of personal discount rates.

Figure XI-61

FORCE LEVELS VS EARLY WITHDRAWALS

75 X COLA AND 3 X PRE-30 YOS (TAPERED PDR)
AND VARIABLE EARLY WITHDRAWALS
OFFICER POPULATION
Size Change

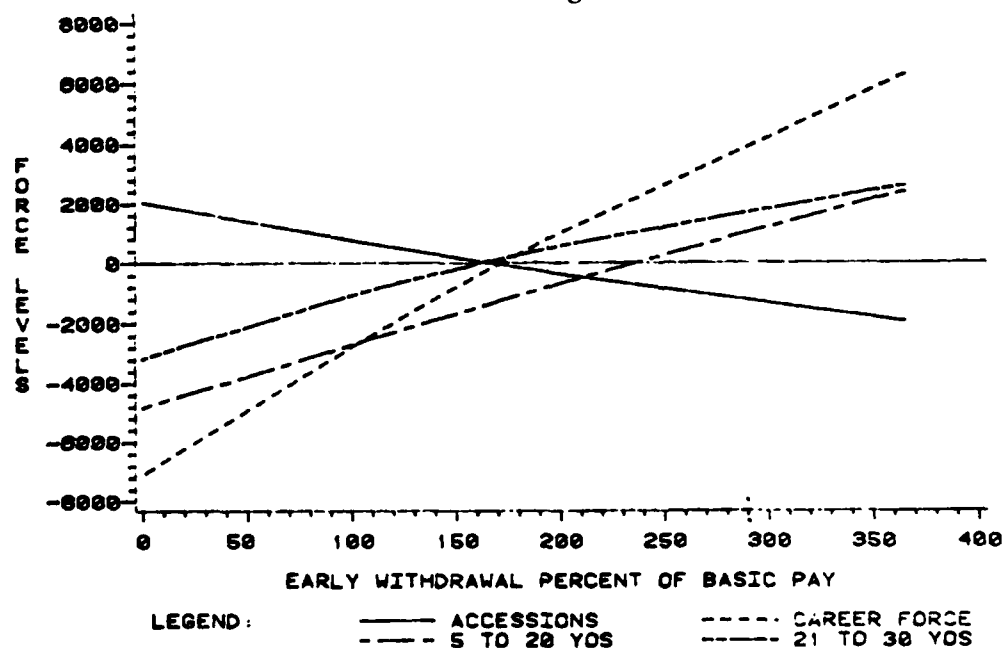


Figure XI-62

FORCE LEVELS VS EARLY WITHDRAWALS
75% COLA AND 3% PRE-30 YOS (TAPERED PDR)
AND VARIABLE EARLY WITHDRAWALS
ENLISTED POPULATION
Size Change

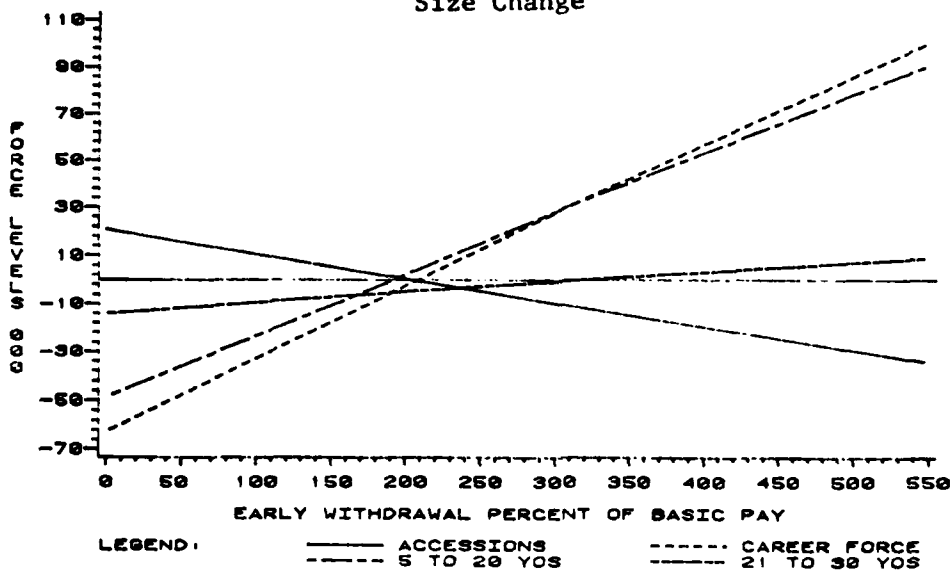


Figure XI-63

FORCE LEVELS VS EARLY WITHDRAWALS
75 % COLA AND 3 % PRE-30 YOS (TAPERED PDR)
AND VARIABLE EARLY WITHDRAWALS
OFFICER POPULATION
Percent Change

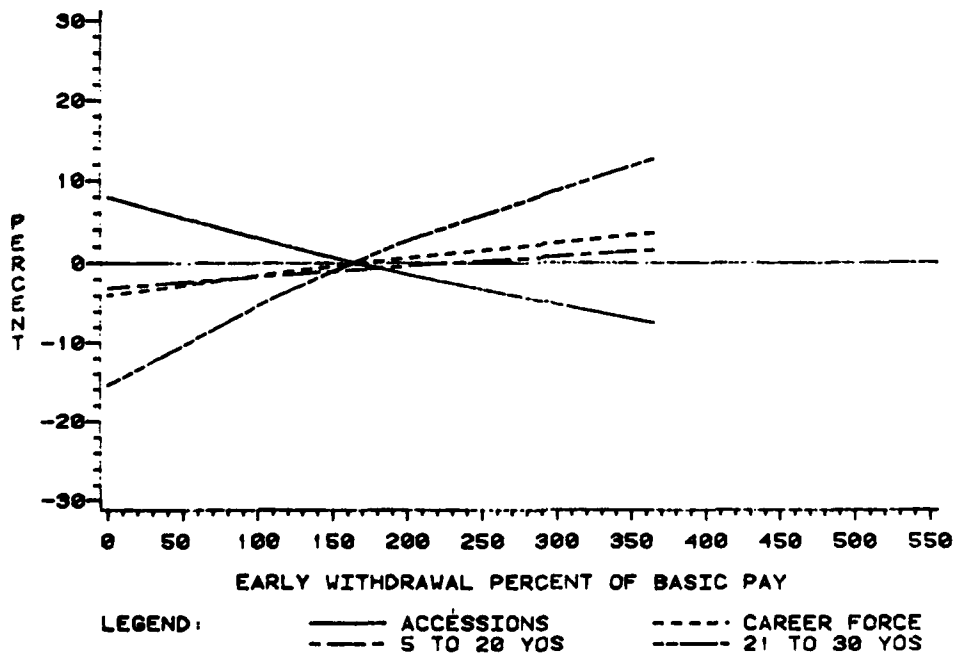
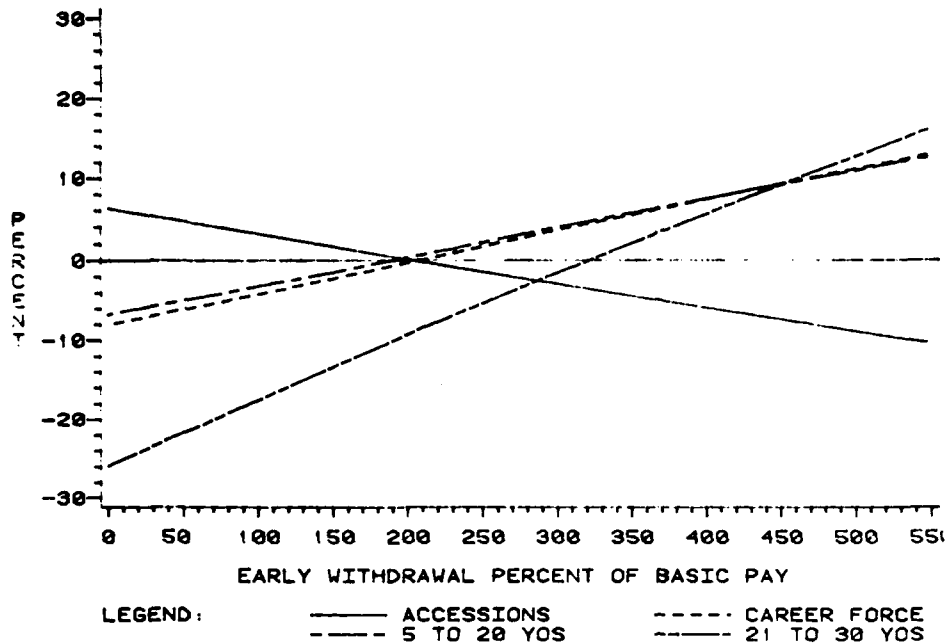


Figure IV-64

FORCE LEVELS VS EARLY WITHDRAWALS

75% COLA AND 3% PRE-30 YOS (TAPERED PDR)
AND VARIABLE EARLY WITHDRAWALS
ENLISTED POPULATION
Percent Change



8. Sensitivity to Personnel (Real) Discount Rates (PDRs). As discussed in Section IX and its respective Appendices, the Fifth QRMG examined the sensitivity of force profile changes for the four primary alternatives to a range of personal discount rates (PDRs). (The various PDRs are defined in Appendix I, Attachments 1 and 2.) Table XI-44 displays the relative force profile insensitivity for the adjusted retired pay forces without any reallocation applied. The ACOL model runs shown in Table XI-44 were completed before the last Service/civilian earnings refinements; therefore, the strength numbers are slightly different. However, based on selective checks, this relative wage difference does not change the overall result.

As observed from Table XI-44, the degraded base case for a profile for each of the four alternatives does not vary significantly for different PDRs. A question then arises concerning the correct value for the PDR. By using the flat rates of 3%, 5%, and 10% for all YOS, the sensitivity of the ACOL model calculations is tested. However, a flat rate for all YOS is not empirically supported. The tapered rate, derived from observed individual behavior, while probably not precisely correct, is the more credible rate for this application.

Table XI-44
Real Personal Discount Rate (PDR) Sensitivity Analysis
(No Reallocation)

Option	PERSONNEL DISCOUNT RATE*	ACCESSIONS		CAREER FORCE 5-30+ YOS		5-20 YOS		21-30 YOS	
		Off	Enl	Off	Enl	Off	Enl	Off	Enl
HI-3/Current Sys (7-Yr. Avg.)	10%	25.92	335.4	175.7	764.8	154.6	722.1	19.49	42.43
	TI	26.05	336.2	175.2	762.3	154.8	720.3	19.41	41.30
	5%	26.18	336.8	174.8	760.6	155.0	720.5	19.15	39.92
	3%	26.31	338.8	174.3	755.1	155.3	716.4	18.58	38.53
1/2 COLA until Age 62 with EARLY WITH- DRAWAL	10%	24.78	335.6	179.4	764.9	156.1	722.1	21.23	42.43
	TI	25.25	332.2	177.8	774.3	155.4	725.6	20.84	47.91
	5%	26.07	338.2	175.0	756.7	154.6	709.4	19.38	46.70
	3%	26.61	345.4	173.2	735.6	153.2	691.8	19.20	43.36
3% Pre-30 YOS with EARLY WITHDRAWAL	10%	24.38	327.0	180.8	790.2	153.9	732.2	23.98	57.23
	TI	24.75	331.0	179.5	778.2	154.0	721.8	23.50	55.69
	5%	25.09	331.4	178.2	776.3	153.8	716.1	22.96	59.40
	3%	25.53	331.3	176.6	776.8	153.6	712.7	22.10	63.35
1.75 Multiplier with EARLY WITHDRAWAL	10%	24.62	327.0	179.9	790.1	156.8	732.0	21.28	57.33
	TI	25.21	331.5	177.9	776.8	156.1	720.8	20.64	55.33
	5%	25.88	336.4	175.6	762.0	154.9	708.4	19.90	53.01
	3%	27.51	344.9	176.3	737.0	153.7	690.7	16.19	45.88
Combination** with EARLY WITHDRAWAL** (200%/300%)**	10%	-	332.5	-	802.9	-	751.3	-	51.03
	TI	25.53	328.4	176.8	785.5	154.0	736.0	20.89	48.88
	5%	-	332.5	-	772.9	-	720.3	-	51.99
	3%	-	336.6	-	760.9	-	706.4	-	53.92

* TI = Tapered PDR I.

** Data run for enlisted force only.

The important question becomes how PDR variation effects both the force structure profile (i.e., the size and shape of the career force) and the cost. It has been observed that the force maintenance costs (less retirement and reallocation) do not vary significantly. The current NCP (today's rates) and ultimate NCP (ACOL rates) will increase, however, as the EARLY WITHDRAWAL (EW) value is increased. Furthermore, this logically increases the trust fund outlays (including EWs) when effected members reach retirement eligibility. First, it was determined how the EW changed the NCP. For every one percent EW earned at the 20-YOS point the combined officer and enlisted increase in NCP is 0.0003820 percentage points. The maximum percent EW at the 20-YOS point for each alternative could then be determined using this value. When EWs were used at alternate points (1.75 multiplier and COLA) a similar value was calculated. The effect on the NCP for EWs at later YOS (23 and 27) is greatly reduced because of small populations. The maximum EW for the 3% pre-30 YOS is 276% for officers and 345% for enlisted members (1.25 times 276). The ratio of 1.25 was determined earlier and confirmed by the zero career force crossover points for officer and enlisted career forces in Figures XI-63 and XI-64. For the Combination alternative, the EW values are 413% and 516%, respectively. (The old income stream numbers were 365% and 547%, because the ratio was 1.5 compared to 1.25.) With these data it could be determined how high a 20-YOS EW could be before the NCP became too high. The lower the NCP the more cost efficient.

The next question was: How do the career force profile shape and level vary as the EW changes, and how does a different PDR affect the selection of a satisfactory EW? Further, is there a satisfactory EW for each PDR without exceeding the original NCP (50.71%)? The answer to the last question was definitely yes. The basic reason that the retirement system can be made more cost efficient results from the difference in discount rates for the Government and for the individual member. The Government calculates its retirement valuations using a real discount rate of 1% over the assumed rate of inflation (CPI). The individual servicemember's personal discount rate will vary significantly, but is not believed to be as low as a flat 1%, nor the same for all YOS. The answer to the first and second questions was found by plotting for the Combination, the 3%, and 4% pre-30 YOS alternatives. The variation in force parameters compared to EWs for the 3%, 10%, and tapered PDRs were also plotted. Each of these alternatives requires a 20-YOS EW. The 4% pre-30 YOS was used to measure a wider range of sensitivity. Figures XI-65 through XI-72 display these data for the enlisted force. The officer data are similar and, therefore, have not been plotted. (The actual strength figures are plotted in Figures L-1 through L-8, Appendix L.) There are a number of critical observations that can be made from these data.

Figure XI-65
FORCE LEVELS VS EARLY WITHDRAWALS
 75% COLA AND 3% PRE-30 YOS (3% PDR)
 AND VARIABLE EARLY WITHDRAWALS
 ENLISTED POPULATION

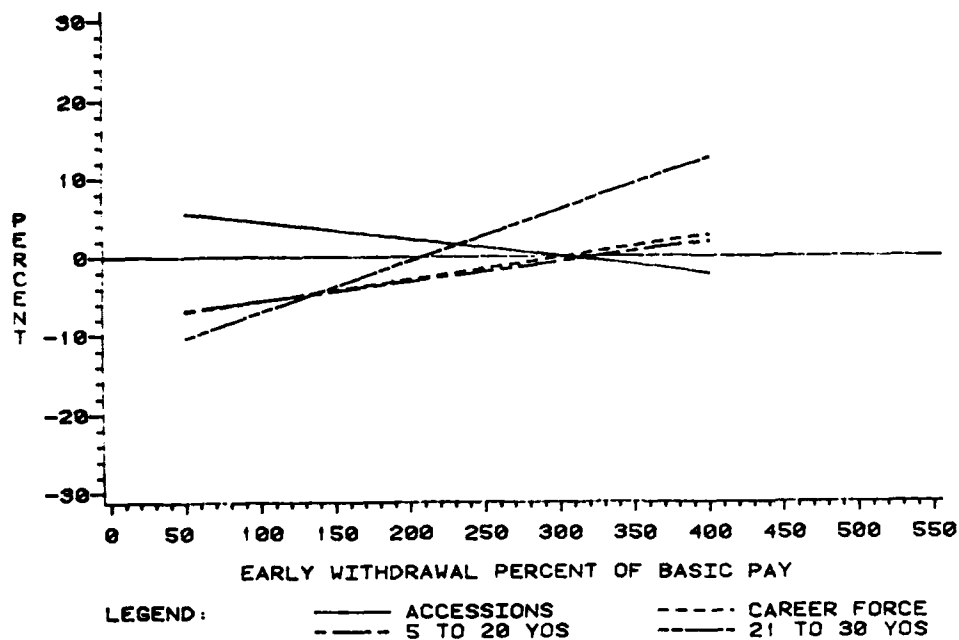


Figure XI-66
FORCE LEVELS VS EARLY WITHDRAWALS
 75 % COLA AND 3 % PRE-30 YOS (10% PDR)
 AND VARIABLE EARLY WITHDRAWALS
 ENLISTED POPULATION

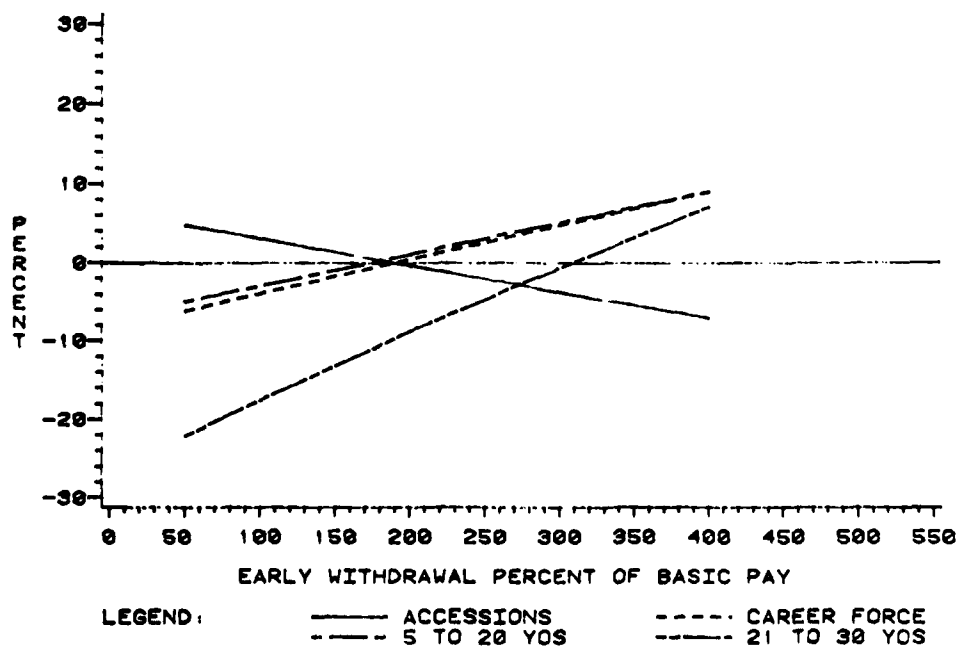


Figure XI-67
FORCE LEVELS VS EARLY WITHDRAWALS
 3% PRE-30 YOS (3% PDR)
 AND VARIABLE EARLY WITHDRAWALS
 ENLISTED POPULATION

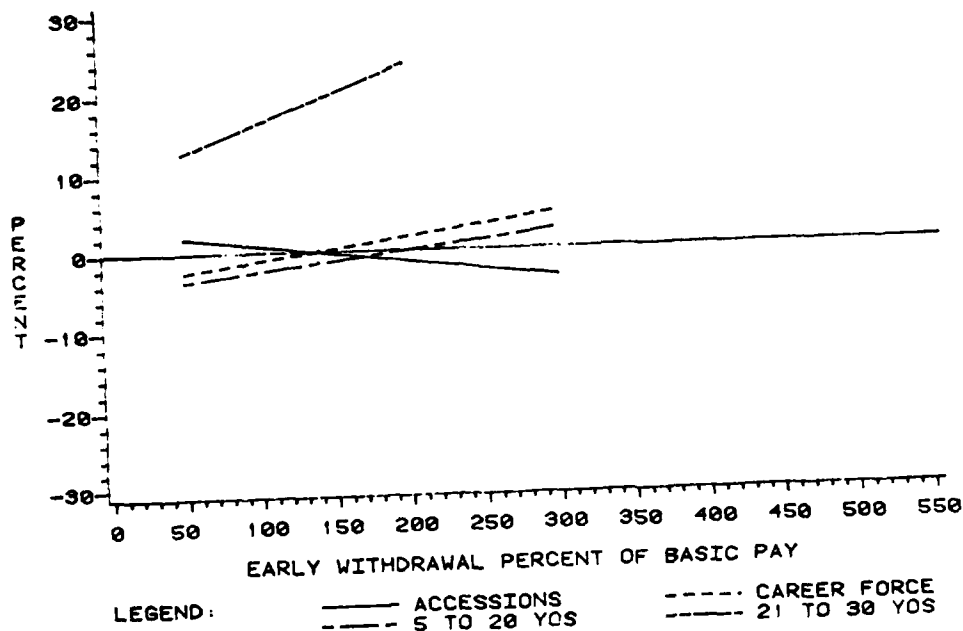


Figure XI-68
FORCE LEVELS VS EARLY WITHDRAWALS
 3% PRE-30 YOS (TAPERED PDR)
 AND VARIABLE EARLY WITHDRAWALS
 ENLISTED POPULATION

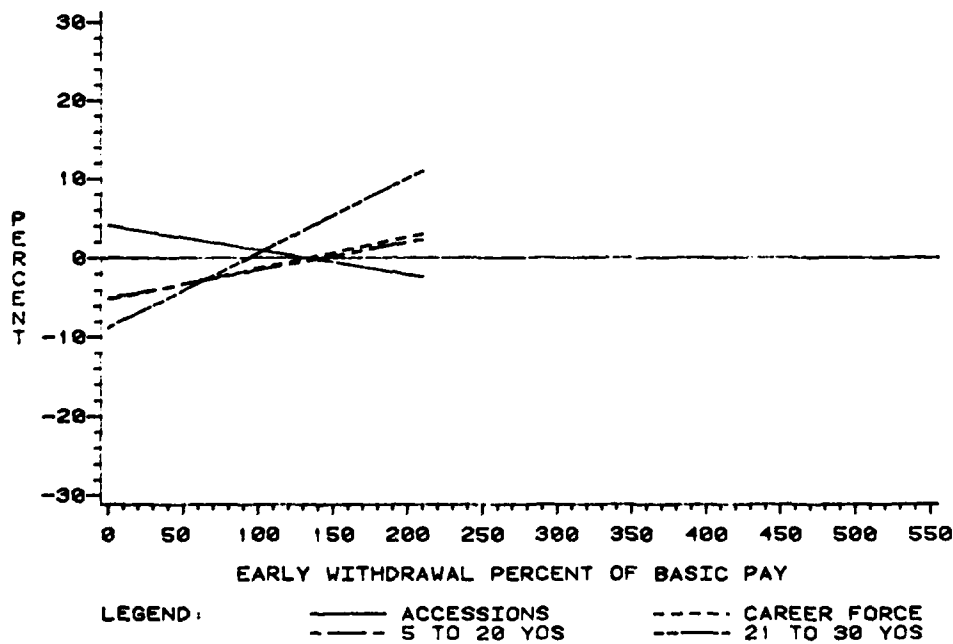


Figure XI-69
FORCE LEVELS VS EARLY WITHDRAWALS
 3 % PRE-30 YOS (10% PDR)
 AND VARIABLE EARLY WITHDRAWALS
 ENLISTED POPULATION

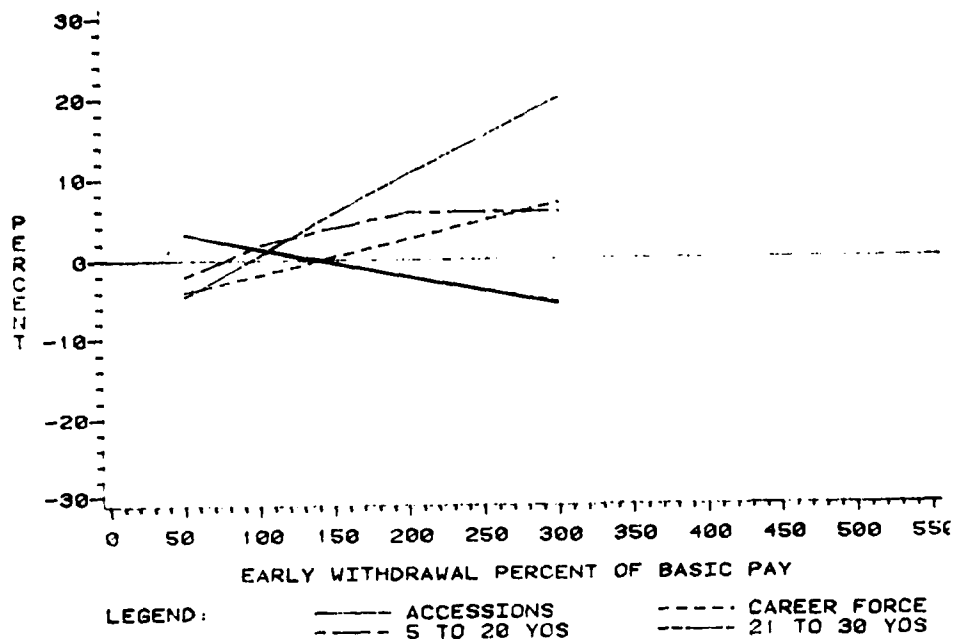


Figure XI-70
FORCE LEVELS VS EARLY WITHDRAWALS
 4% PRE-30 YOS (3% PDR)
 AND VARIABLE EARLY WITHDRAWALS
 ENLISTED POPULATION

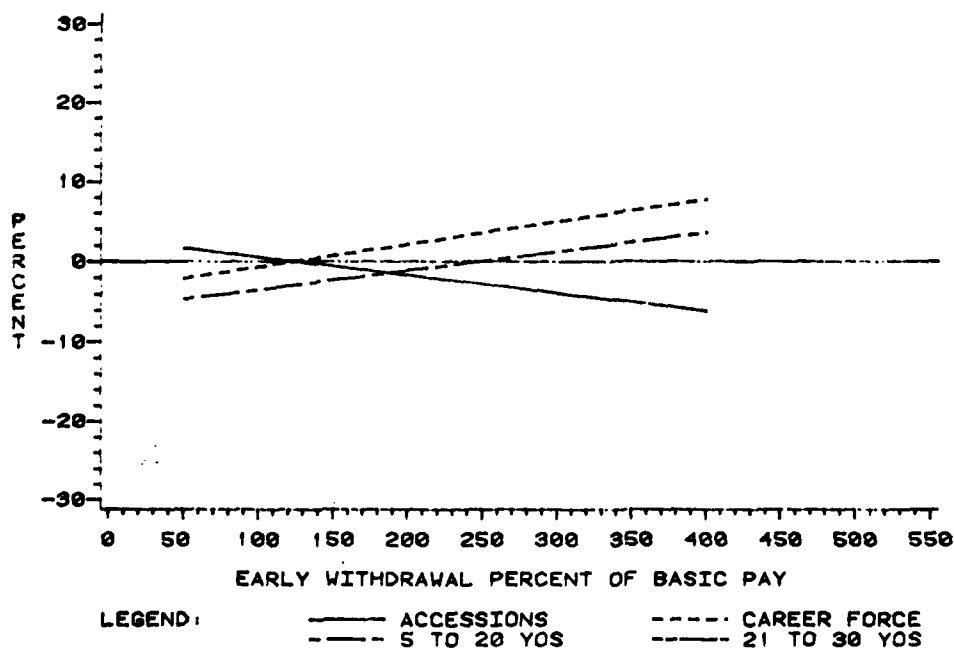


Figure XI-71
FORCE LEVELS VS EARLY WITHDRAWALS
 4 X PRE-30 YOS (10% PDR)
 AND VARIABLE EARLY WITHDRAWALS
 ENLISTED POPULATION

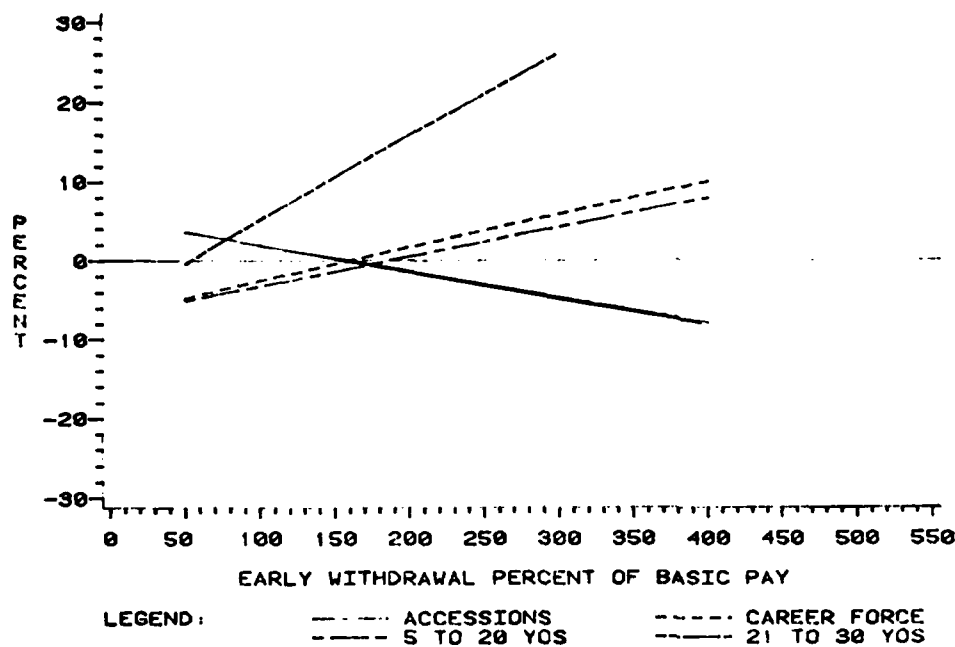
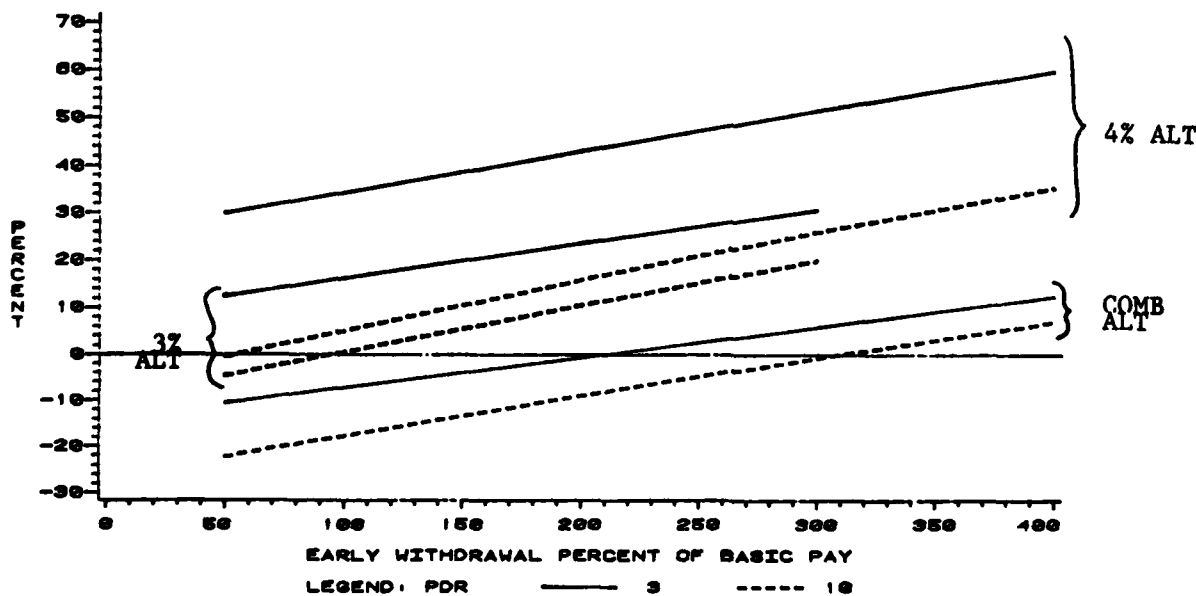


Figure XI-72
FORCE LEVELS VS EARLY WITHDRAWALS
 ENLISTED POPULATION
 21 - 30 YOS



a. The lower the effective PDR the lower the required EW to restore the base case career force. There has been a concern that PDRs used by DoD previously were too high for long-term analysis, and that they should be around 5% to 8%. The available technical data, although admittedly varied, supports a tapered rate with the lower end at the higher age and years of service. The Tapered I (TI) rate appears, on a comparative basis, in Figures XI-65, XI-66 and XI-67 to be close to an average 8%. This is based on comparing tapered PDR force behavior with the similar 10% PDR data.

b. The EW crossover for the career force reduces from about 300% at 3% PDR to about 190% at 10% PDR for the Combination alternative. The 3% pre-30 YOS crossover EW remains relatively constant at 130% to 140%. The 4% pre-30 YOS crossover reverses direction and moves from 125% to 160% for PDRs of 3% and 10%, respectively. This is caused by the very heavy buildup in the 21-30 YOS career force strength as the PDR decreases.

c. Figure XI-72 shows the 3% and 10% percentages versus EW for the three alternatives. Note how a lower PDR increases the percentage uniformly. Also note the variation between the 3% and 10% PDR lines. It increases as the pre-30 YOS percentage increases. This is caused by the increasing number of retirement-eligible members staying because of the higher present value of retirement, and, in turn, causes the badly shaped career force distribution compared to Service requirements. However, the Combination alternative does not increase as much. In addition, the difference between the 3% and 10% lines looks like a 2% pre-30 YOS. This is the effect of the COLA limitation which increases as the PDR decreases and, thus, counteracts the tendency to over populate the 21-30 YOS. It produces a more balanced force over a wide range of PDRs and EWs.

d. Career force EW crossover movement (high to low) is opposite from the 21-30 YOS crossover EW movement. This is good for the Combination alternative, because the 21-30 YOS crossover starts out to the right (higher) of the career force EW crossover. This is not true for the pre-30 YOS alternatives above 3%/per year. For the Combination alternative, by choosing an EW between the two extremes (still cost efficient) one could enhance the 5-20 YOS career force and still restore most of the HI-3 impact on 21-30 YOS.

e. The base case force is always restored and, in some cases, improved (lower accessions, higher 5-20 YOS strength) well before the EW limit for equal original NCP is reached. This confirms the possibility that a more cost efficient, as well as militarily more efficient, force could be achieved by restructuring the retirement system.

f. Although a balanced force can be achieved with a 3% pre-30 YOS at the 135% EW crossover point, it is much more sensitive to PDR variations than a Combination alternative. A balanced 4% pre-30 YOS is not possible for the parameter tolerances examined.

g. At the higher discount rates, some nonlinear anomalies begin to occur at the 3% pre-30 YOS. These are not fully explained, but are related to the same nonlinear response curves observed in Figures XI-23 through XI-46. Recall that the break point was at about the 3% plot point.

This examination of the relationship and sensitivity of change to the PDRs has provided additional and useful insight into the complex interaction of the many economic and noneconomic variables of this problem. It also has provided an increasing level of credibility and confidence in the officer ACOL model results, because of the generally similar trends and explainable differences. These same differences have been observed when income stream differentials were adjusted to more closely equate the officer and enlisted differential relationship (to each other, as well as to the respective alternative civilian income stream).

9. Summary. The four prime alternatives, each representing a different method of adjusting retired pay, and each employing the EARLY WITHDRAWAL reallocation to maintain or improve the DoD base case force profile, are summarized as they would apply to new Service entrants as follows:

a. Reduced COLA/EARLY WITHDRAWAL: Annually adjusted retirement payment by 50% of CPI rather than 100% until age 62; and provides early retirement withdrawals for those under new system who stay to at least the end of 20 YOS (160% times annual basic pay at 20, 40% at 23 and 50% at 27).

b. Reduced Multiplier/EARLY WITHDRAWAL: 1.75% instead of 2.50% of basic pay per year of service, i.e., 35% vice 50% at 20 YOS, 43.75% vice 62.50% at 25 YOS and 52.5% vice 75% at 30 YOS; provides early retirement withdrawals to all who stay to at least the end of several YOS (210% times annual basic pay at 20, 60% at 23 and 100% at 27); only paid to members under the new system; and full COLA.

c. Reduced Early (Pre-30 YOS) Benefit/EARLY WITHDRAWAL: Retirement benefit percent of basic pay is tapered (-3% per year) from 35% at 20 YOS to 75% at 30 YOS (35, 38, ..., 53.1 at 25 YOS, ..., 70.3, 75); provides an early retirement withdrawal (2.1 times annual basic pay at 20) to all who stay at least the end of 20 YOS; only paid to people under new system; and full COLA.

d. Combination/EARLY WITHDRAWAL: Reduces COLA adjustment to 75% until age 62; reduces pre-30 YOS retiree benefit by 3% per year (tapered from 35% at 20 YOS to maximum 75% at 30 YOS) and allows an early retirement withdrawal of 2 times annual basic pay for officers and 3 times for enlisted for all those under new system who stay at least to the end of 20 YOS.

Tables XI-45 and XI-46 summarize the impact on each Service's officer and enlisted force profiles, respectively, before and after the reallocation of a portion of the retired pay reduction. These tables provide the opportunity to compare the relative impact among the four DoD Services.

Table XI-45
DoD Service Percentage Strength Changes
for 4 Alternatives -- Officers

		50% COLA					1.75 Multiplier				
		A	N	MC	AF	DoD	A	N	MC	AF	DoD
Accessions											
Root		+ 7.8	+ 8.1	+ 7.1	+ 9.3	+ 8.3	+12.9	+13.4	+11.3	+14.6	+13.4
EW		- 2.7	- 2.9	- 2.0	- 1.4	- 2.3	- 3.0	- 3.4	- 2.6	- 1.4	- 2.5
Career Force											
Root		- 4.2	- 4.3	- 4.0	- 4.0	- 4.2	- 6.9	- 7.1	- 6.3	- 6.3	- 6.7
EW		+ 1.3	+ 1.4	+ 1.0	+ 0.5	+ 1.0	+ 1.4	+ 1.7	+ 1.4	+ 0.5	+ 1.1
Early/Mid Career											
Root		- 1.6	- 2.5	- 1.8	- 1.1	- 1.6	- 2.0	- 2.8	- 2.4	- 1.3	- 1.9
EW		+ 0.2	- 0.2	+ 0.3	+ 0.6	+ 0.3	+ 0.8	+ 0.1	+ 0.4	+ 1.2	+ 0.8
Late Career											
Root		-24.7	-16.1	-24.3	-25.8	-23.0	-44.4	-35.4	-42.5	-43.6	-41.7
EW		+ 9.9	+12.4	+ 7.7	- 0.3	+ 6.4	+ 6.4	+12.5	+10.5	- 5.1	+ 3.6
		3% Pre-30 YOS					Combination				
		A	N	MC	AF	DoD	A	N	MC	AF	DoD
Accessions											
Root		+ 4.9	+ 4.3	+ 3.7	+ 5.5	+ 4.9	+ 8.1	+ 7.3	+ 6.0	+ 8.7	+ 8.0
EW		- 4.6	- 5.1	- 3.7	- 3.7	- 4.4	- 1.8	- 2.1	- 1.2	- 0.5	- 1.4
Career Force											
Root		- 2.7	- 2.3	- 2.1	- 2.5	- 2.5	- 4.5	- 3.9	- 3.4	- 3.8	- 4.0
EW		+ 2.3	+ 2.6	+ 2.0	+ 1.5	+ 2.1	+ 0.8	+ 1.0	+ 0.8	+ 0.1	+ 0.6
Early/Mid Career											
Root		- 2.6	- 4.1	- 3.0	- 3.0	- 3.1	- 2.6	- 4.2	- 3.2	- 2.9	- 3.1
EW		- 0.2	- 1.1	-	- 0.5	- 0.5	- 0.2	- 1.2	- 0.1	- 0.3	- 0.5
Late Career											
Root		- 3.9	+ 9.4	+ 6.7	+ 1.6	+ 2.1	-18.6	+11.8	- 5.4	-10.9	-11.1
EW		+21.7	+27.2	+20.4	+16.4	+20.9	+ 8.4	+15.5	+ 7.4	+ 3.2	+ 8.1

Table XI-46
DoD Service Percentage Strength Changes
for 4 Alternatives -- Enlisted

50% COLA						1.75 Multiplier					
	A	N	MC	AF	DoD	A	N	MC	AF	DoD	
Accessions											
Root	+ 6.8	+ 5.7	+ 6.5	+ 6.5	+ 6.4	+ 9.4	+ 7.7	+ 8.7	+ 9.1	+ 8.8	
EW	- 1.1	- 0.2	- 0.6	- 0.9	- 0.8	- 2.2	- 0.6	- 1.2	- 2.2	- 1.7	
Career Force											
Root	- 8.8	- 8.1	-14.3	- 6.5	- 8.3	-12.0	-11.0	-19.2	- 9.0	-11.3	
EW	+ 1.2	+ 0.3	+ 1.2	+ 0.9	+ 0.9	+ 2.5	+ 0.9	+ 2.5	+ 2.1	+ 2.0	
Early/Mid Career											
Root	- 5.5	- 5.7	-11.7	- 2.6	- 5.1	- 8.0	- 7.9	-15.7	- 4.1	- 7.3	
EW	+ 1.9	+ 0.7	+ 0.8	+ 1.7	+ 1.5	+ 2.2	+ 0.4	+ 2.1	+ 1.5	+ 1.5	
Late Career											
Root	-52.3	-46.0	-50.0	-48.4	-49.4	-65.7	-58.6	-67.7	-61.6	-63.3	
EW	- 8.5	- 6.4	+ 4.9	- 7.5	- 6.8	+ 7.3	+ 7.7	+ 7.3	+ 9.2	+ 8.1	
3% Pre-30 YOS						Combination					
	A	N	MC	AF	DoD	A	N	MC	AF	DoD	
Accessions											
Root	+ 3.9	+ 4.7	+ 5.4	+ 2.9	+ 4.1	+ 6.3	+ 6.7	+ 7.5	+ 5.1	+ 6.3	
EW	- 3.1	- 1.3	- 2.0	- 2.8	- 2.4	- 3.7	- 1.9	- 2.8	- 2.9	- 2.9	
Career Force											
Root	- 5.1	- 6.8	-12.0	- 2.9	- 5.3	- 8.2	- 9.6	-16.7	- 5.0	- 8.1	
EW	+ 3.7	+ 1.8	+ 4.2	+ 2.7	+ 2.9	+ 4.4	+ 2.6	+ 5.9	+ 2.8	+ 3.6	
Early/Mid Career											
Root	- 4.9	- 6.8	-11.8	- 2.6	- 5.1	- 6.9	- 8.5	-15.1	- 3.5	- 6.8	
EW	+ 3.0	+ 0.9	+ 2.4	+ 2.4	+ 2.2	+ 4.5	+ 2.7	+ 5.4	+ 3.7	+ 3.9	
Late Career											
Root	- 8.9	- 6.8	-14.8	- 6.3	- 7.9	-25.8	-27.1	-38.4	-21.3	-25.3	
EW	+13.8	+16.1	+29.0	+ 4.9	+12.0	+ 2.9	+ 0.6	+13.3	- 7.1	- 0.6	

Figures XI-73 through XI-80 display these data in needle bar graph format. The greatest cost reduction results from the 1.75% multiplier alternative with a 15.4% reduction in NCP and a long-term 16.6% reduction in trust fund outlays. Table XI-47 displays, the projected reduction in trust fund outlays starting in Fiscal Year 1990 for new Service entrants. As observed, in Fiscal Year 2005 a surge in trust fund outlays is experienced due to the projected EW payments. This surge lasts until Fiscal Year 2022, where the reduction rises more rapidly. These and subsequent data for the other alternatives were calculated using the DoD Actuary Retirement Valuation Model (GORGO) and used current economic assumptions. Although this alternative is the most cost efficient without the EARLY WITHDRAWAL, it has the most severe force impact. Further, it does not restore the force profile in the early/mid career (15-20 YOS) as well as does the Combination alternative. This alternative also requires multiple EW payments, considered less desirable.

The second most cost efficient alternative is the COLA adjustment. It reduces the NCP by 14% and has long term trust fund outlays of 13.6%. Table XI-48 shows the new entrant outlay reductions starting in Fiscal Year 1992. The EW surge comes in Fiscal Year 2005 and lasts longer (Fiscal Year 2028) than the 1.75% multiplier alternative, although the surge is not as large. This alternative has the undesirable aspect of economic uncertainty for both the Government and the servicemember. Therefore, it is considered a poor choice as a primary method for redesigning the retirement system. It also requires multiple EWs. Some EW adjustment could be made to accomodate the new income stream differentials.

The 3% Pre-30 YOS and the Combination alternatives have about the same cost efficiency; however, the Pre-30 YOS alternative is the least cost efficient. It reduces the NCP by only 7.1% compared to 14% for the Combination. In addition, the long-term trust fund outlays are reduced by 11.2% compared to 18.2% for the Combination. Tables XI-49 and XI-50 show the new entrant trust fund reductions both starting in Fiscal Year 1989 (earliest of the 4 alternatives) and surging in Fiscal Year 2005. These two alternatives have the largest surge which last until Fiscal Year 2023. The 3% Pre-30 YOS alternative does not restore the force profile in line with the stated Service requirements and, as such, is not desirable. Both this alternative and the Combination-only alternative require a single EW at the 20-YOS point. Again, some EW adjustment could be made to both of these alternatives for the new income data.

Overall, it has been observed that the current retirement system can be restructured for new Service entrants by reducing the amount of retired pay and paying a portion of it sooner. It should be observed that the EW is still part of the retirement benefit and remains categorized as deferred compensation. Although the use of CURRENT compensation in the form of a special pay (compared to basic pay) will produce a larger size career force, it does not do so in way that will meet stated Service requirements. The EARLY WITHDRAWAL reallocation method is best suited for maintaining or enhancing the ability of the retirement system to support

mission readiness and sustainability. The most effective retired pay reallocation method must place the proper level of compensation incentive at the right year of service (20 YOS) to draw and retain the required number of quality careerists. By expending the compensation too early, through the use of CURRENT compensation, it reduces efficiency.

Table XI-47
1.75% Multiplier Alternative/EARLY WITHDRAWAL
Retirement Trust Fund Outlays - Billions

FISCAL YEAR	CURRENT SYSTEM	ALTERNATIVE SYSTEM	DELTA DOLLARS REDUCTION	PERCENT REDUCTION
1985	17.267			
1986	18.474			
1987	19.626			
1988	20.846			
1989	22.222			
1990	23.724			
1991	25.330			
1992	27.053			
1993	28.875			
1994	30.803			
1995	32.845			
1996	35.015			
1997	37.346			
1998	39.868			
1999	42.550			
2000	45.345			
2001	48.220			
2002	51.156			
2003	54.237			
2004	57.509			
2005	60.935	67.233	-6.298	-10.336
2006	64.532	70.950	-6.418	-9.945
2007	68.330	74.873	-6.543	-9.576
2008	72.309	79.632	-7.322	-10.127
2009	76.456	83.673	-7.217	-9.440
2010	80.782	87.867	-7.085	-8.771
2011	85.298	92.264	-6.966	-8.166
2012	90.025	97.564	-7.539	-8.374
2013	94.992	102.205	-7.213	-7.593
2014	100.223	107.119	-6.896	-6.881
2015	105.726	112.150	-6.424	-6.076
2016	111.522	117.412	-5.890	-5.281
2017	117.640	122.968	-5.328	-4.529
2018	124.113	128.859	-4.746	-3.824
2019	130.962	134.872	-3.910	-2.986
2020	138.200	141.156	-2.956	-2.139
2021	145.847	147.772	-1.925	-1.320
2022	153.917	154.587	-0.670	-0.435
2023	162.435	161.932	0.504	0.310
2024	171.456	169.602	1.854	1.081
2025	181.004	177.501	3.403	1.890
2026	191.065	186.041	5.024	2.629
2027	201.674	194.919	6.756	3.350
2028	212.884	204.189	8.695	4.084
2029	224.726	213.943	10.783	4.798
2030	237.237	224.246	12.991	5.476
2031	250.453	235.081	15.372	6.138
2032	264.410	246.465	17.945	6.787
2033	279.150	258.475	20.674	7.406
2034	294.730	271.141	23.590	8.004
2035	311.196	284.480	26.716	8.585
2036	328.593	298.555	30.038	9.141
2037	346.981	313.427	33.554	9.670
2038	366.415	329.139	37.276	10.173
2039	386.956	345.711	41.245	10.659
2040	409.667	363.221	46.447	11.121
2041	431.616	381.726	49.890	11.559
2042	455.871	401.254	54.617	11.979

Table XI-48
50% COLA until Age 62 Alternative/EARLY WITHDRAWAL
Retirement Trust Fund Outlays -- Billions

FISCAL YEAR	CURRENT SYSTEM	ALTERNATIVE SYSTEM	DELTA DOLLARS REDUCTION	PERCENT REDUCTION
1985	17.267			
1986	18.474			
1987	19.626			
1988	20.846			
1989	22.222			
1990	23.724			
1991	25.330			
1992	27.053			
1993	28.875			
1994	30.803			
1995	32.845			
1996	35.015			
1997	37.346			
1998	39.868			
1999	42.550			
2000	45.345			
2001	48.228			
2002	51.156			
2003	54.237			
2004	57.509			
2005	60.912	55.019	-5.984	-9.843
2006	64.512	60.899	-5.356	-8.316
2007	68.310	74.038	-5.702	-8.353
2008	72.309	78.813	-6.504	-8.995
2009	76.456	81.191	-6.735	-8.809
2010	80.782	87.747	-6.965	-8.623
2011	85.298	92.531	-7.233	-8.480
2012	90.025	97.964	-7.939	-8.738
2013	94.992	102.974	-7.982	-8.403
2014	100.223	108.365	-8.142	-8.124
2015	105.726	113.933	-8.207	-7.752
2016	111.522	119.758	-8.236	-7.385
2017	117.640	125.876	-8.235	-7.000
2018	124.113	132.316	-8.203	-6.609
2019	130.962	138.920	-7.958	-6.077
2020	138.200	145.798	-7.598	-5.498
2021	145.847	152.992	-7.145	-4.899
2022	153.917	160.401	-6.484	-4.215
2023	162.415	168.276	-5.861	-3.596
2024	171.456	176.471	-5.015	-2.925
2025	181.004	184.994	-3.990	-2.204
2026	191.065	193.928	-2.863	-1.498
2027	201.674	203.280	-1.605	-0.796
2028	212.884	213.032	-0.147	-0.069
2029	224.726	223.263	1.463	0.651
2030	237.237	234.930	2.307	1.352
2031	250.453	245.345	5.108	2.040
2032	264.410	257.226	7.184	2.717
2033	279.150	265.746	9.404	3.369
2034	294.730	282.934	11.796	4.002
2035	311.196	296.820	14.376	4.620
2036	328.593	311.457	17.136	5.215
2037	346.981	326.906	20.076	5.786
2038	365.415	343.211	22.204	6.333
2039	385.956	360.403	25.553	6.852
2040	408.667	376.555	30.112	7.360
2041	431.516	397.725	33.791	7.851
2042	455.871	417.970	37.900	8.314

Table XI-49
3% Pre-30 YOS Alternative/EARLY WITHDRAWAL
Retirement Trust Fund Outlays -- Billions

FISCAL YEAR	CURRENT SYSTEM	ALTERNATIVE SYSTEM	DELTA DOLLARS REDUCTION	PERCENT REDUCTION
1985	17.267			
1986	18.474			
1987	19.626			
1988	20.846			
1989	22.222			
1990	23.724			
1991	25.330			
1992	27.653			
1993	28.875			
1994	30.803			
1995	32.845			
1996	35.015			
1997	37.346			
1998	39.868			
1999	42.550			
2000	45.345			
2001	48.220			
2002	51.156			
2003	54.237			
2004	57.509			
2005	60.915	67.235	-6.299	-10.338
2006	64.512	70.956	-6.424	-9.954
2007	68.330	74.893	-6.563	-9.505
2008	72.309	78.901	-6.492	-8.978
2009	75.456	82.834	-6.378	-8.442
2010	80.782	87.022	-6.240	-7.724
2011	85.298	91.456	-6.158	-7.219
2012	90.025	95.995	-5.970	-6.631
2013	94.992	100.682	-5.690	-5.990
2014	100.223	105.651	-5.428	-5.416
2015	105.726	110.810	-5.083	-4.808
2016	111.522	116.252	-4.729	-4.241
2017	117.640	122.010	-4.369	-3.714
2018	124.113	128.125	-4.011	-3.232
2019	130.962	134.393	-3.431	-2.620
2020	138.200	140.963	-2.763	-2.000
2021	145.847	147.894	-2.037	-1.397
2022	153.917	155.060	-1.143	-0.743
2023	162.415	162.796	-0.381	-0.232
2024	171.456	170.886	0.570	0.333
2025	181.004	175.346	5.658	3.126
2026	191.045	184.693	6.352	3.351
2027	201.674	197.712	3.962	1.965
2028	212.884	207.589	5.296	2.488
2029	224.726	218.001	6.725	2.993
2030	237.237	225.986	11.251	4.748
2031	250.453	240.572	9.880	3.945
2032	264.410	252.771	11.639	4.402
2033	279.150	265.599	13.551	4.856
2034	294.730	279.238	15.493	5.257
2035	311.196	293.573	17.623	5.663
2036	328.593	308.739	19.854	6.051
2037	346.981	324.712	22.270	6.418
2038	366.415	341.627	24.788	6.765
2039	386.956	359.478	27.477	7.101
2040	408.657	378.341	30.316	7.421
2041	431.616	398.230	33.386	7.724
2042	455.871	419.338	36.533	8.014

Table XI-50
Combination Alternative/EARLY WITHDRAWAL
Retirement Trust Fund Outlays -- Billions

FISCAL YEAR	CURRENT SYSTEM	ALTERNATIVE SYSTEM	DELTA DOLLARS REDUCTION	PERCENT REDUCTION
1985	17.267	17.267		
1986	18.474	18.474		
1987	19.626	19.626		
1988	20.846	20.846		
1989	22.222	22.222	0.000	0.001
1990	23.724	23.723	0.001	0.004
1991	25.330	25.327	0.003	0.011
1992	27.053	27.047	0.006	0.023
1993	28.875	28.864	0.012	0.040
1994	30.803	30.784	0.019	0.063
1995	32.845	32.815	0.030	0.091
1996	35.015	34.972	0.044	0.124
1997	37.346	37.285	0.061	0.163
1998	39.868	39.786	0.082	0.206
1999	42.550	42.442	0.108	0.255
2000	45.345	45.205	0.140	0.309
2001	48.220	48.043	0.177	0.367
2002	51.156	50.936	0.220	0.430
2003	54.237	53.968	0.269	0.495
2004	57.509	57.185	0.324	0.564
2005	60.935	68.864	-7.929	-13.012
2006	64.532	72.675	-8.143	-12.618
2007	68.330	76.720	-8.390	-12.278
2008	72.309	80.692	-8.383	-11.598
2009	76.456	84.783	-8.327	-10.891
2010	80.782	89.023	-8.242	-10.203
2011	85.298	93.524	-8.226	-9.643
2012	90.025	98.099	-8.074	-8.969
2013	94.992	102.794	-7.802	-8.213
2014	100.223	107.765	-7.542	-7.525
2015	105.736	112.892	-7.166	-6.777
2016	111.522	118.282	-6.760	-6.062
2017	117.640	123.966	-6.325	-5.377
2018	124.113	129.983	-5.869	-4.729
2019	130.962	136.070	-5.109	-3.901
2020	138.200	142.408	-4.208	-3.045
2021	145.847	149.045	-3.198	-2.193
2022	153.917	155.857	-1.940	-1.260
2023	162.435	163.214	-0.779	-0.480
2024	171.456	170.844	0.612	0.357
2025	181.004	178.844	2.244	1.240
2026	191.065	187.092	3.972	2.079
2027	201.674	195.853	5.821	2.886
2028	212.884	204.973	7.911	3.716
2029	224.726	214.555	10.171	4.526
2030	237.237	224.635	12.602	5.312
2031	250.453	235.243	15.209	6.073
2032	264.410	246.384	18.025	6.817
2033	279.150	258.128	21.022	7.531
2034	294.730	270.498	24.233	8.222
2035	311.196	283.526	27.670	8.892
2036	328.593	297.264	31.329	9.534
2037	346.981	311.777	35.204	10.147
2038	366.415	327.107	39.308	10.728
2039	386.956	343.268	43.688	11.290
2040	408.667	360.333	48.334	11.827
2041	431.616	378.366	53.250	12.337
2042	455.871	397.402	58.469	12.826

Figure XI-73

PERCENT CHANGE IN STRENGTH

FROM NON-HIGH-3 BASE CASE
KIND=OFFICER FORCE=ACCESSIONS

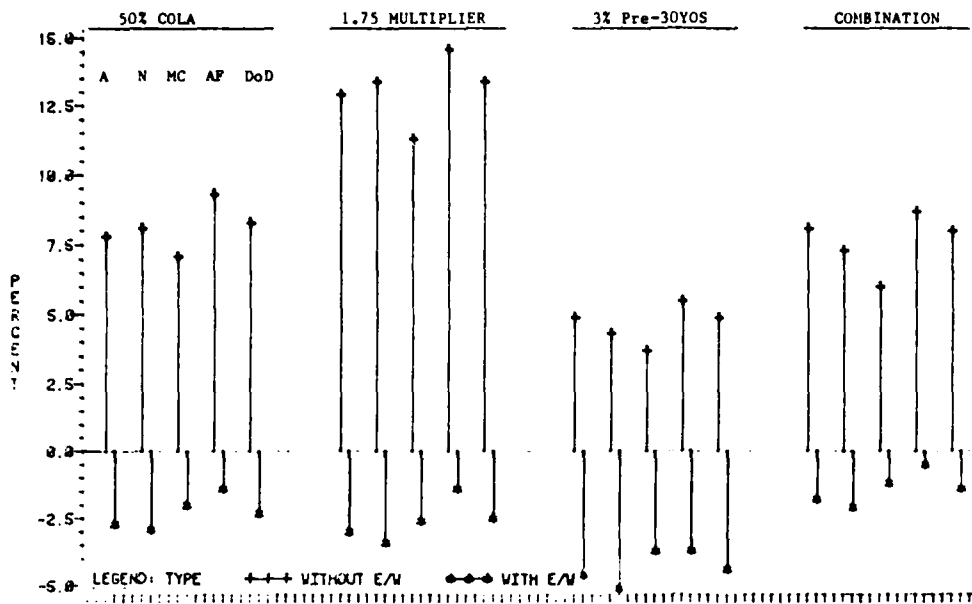


Figure XI-74

PERCENT CHANGE IN STRENGTH

FROM NON-HIGH-3 BASE CASE
KIND=OFFICER FORCE=CAREER FORCE

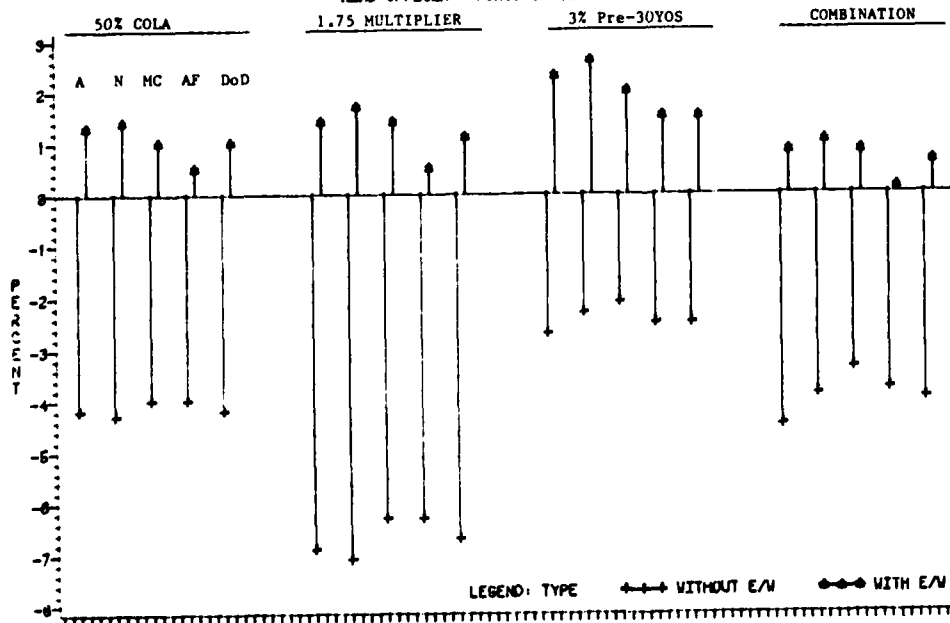


Figure XI-75

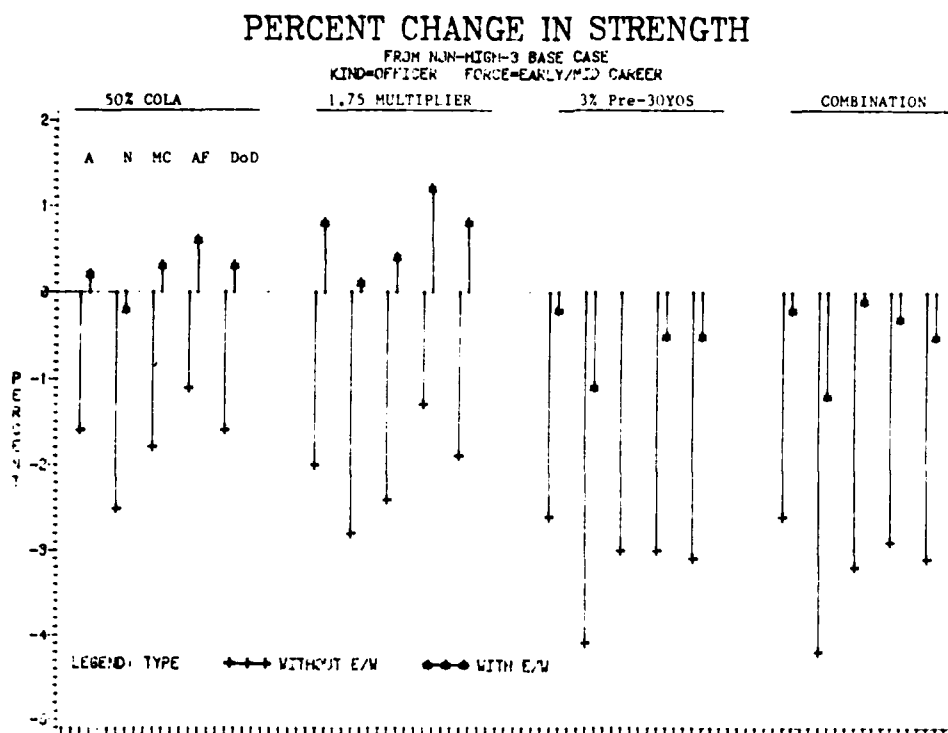


Figure XI-76

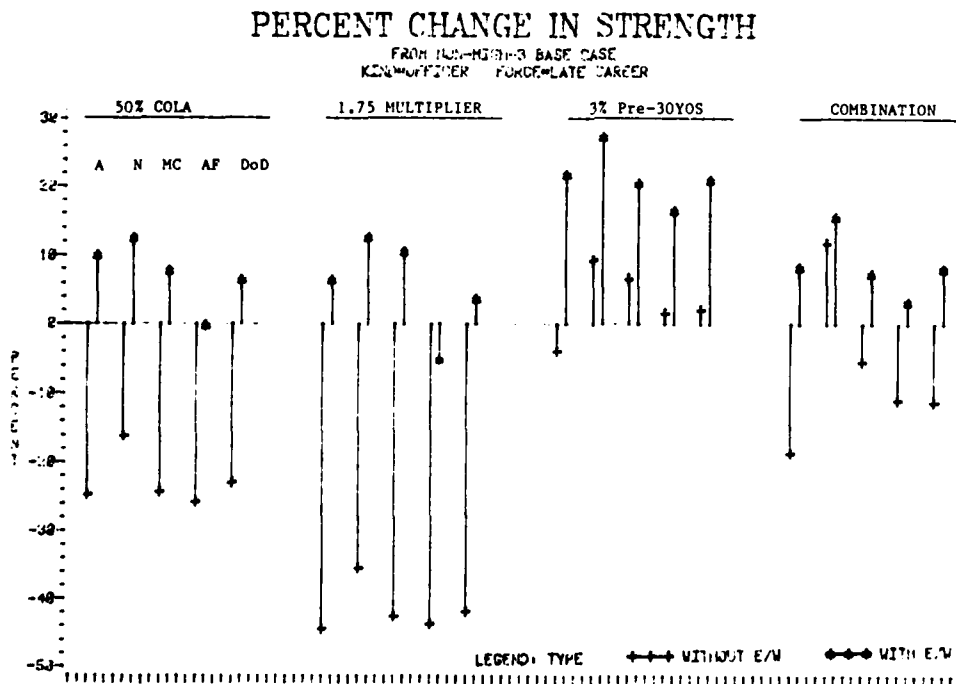


Figure XI-77

PERCENT CHANGE IN STRENGTH

FROM NON-HIGH-3 BASE CASE
KIND=ENLISTED FORCE=ACCESSIONS

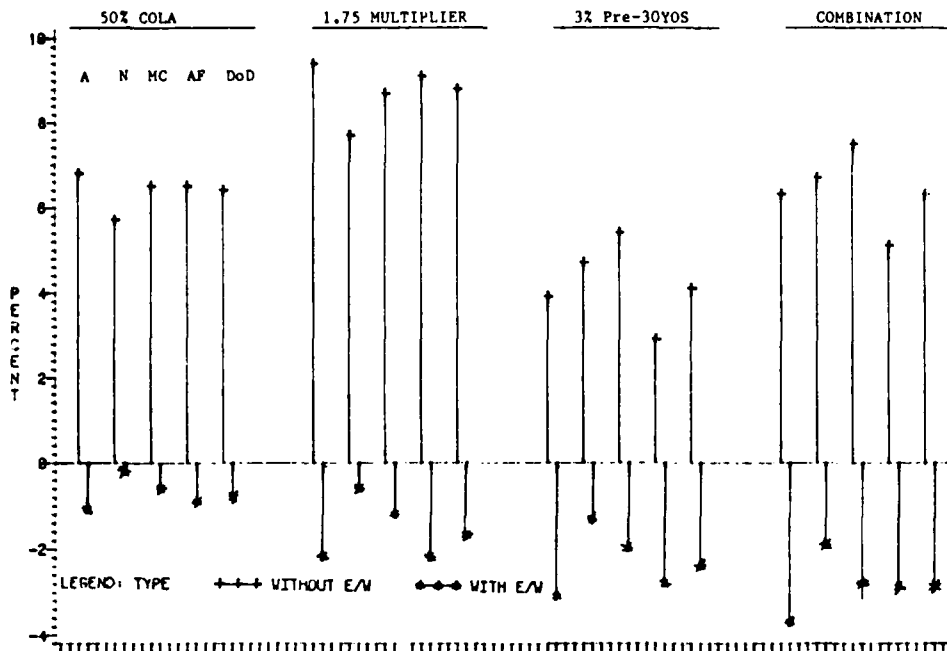


Figure XI-78

PERCENT CHANGE IN STRENGTH

FROM NON-HIGH-3 BASE CASE
KIND=ENLISTED FORCE=CAREER FORCE

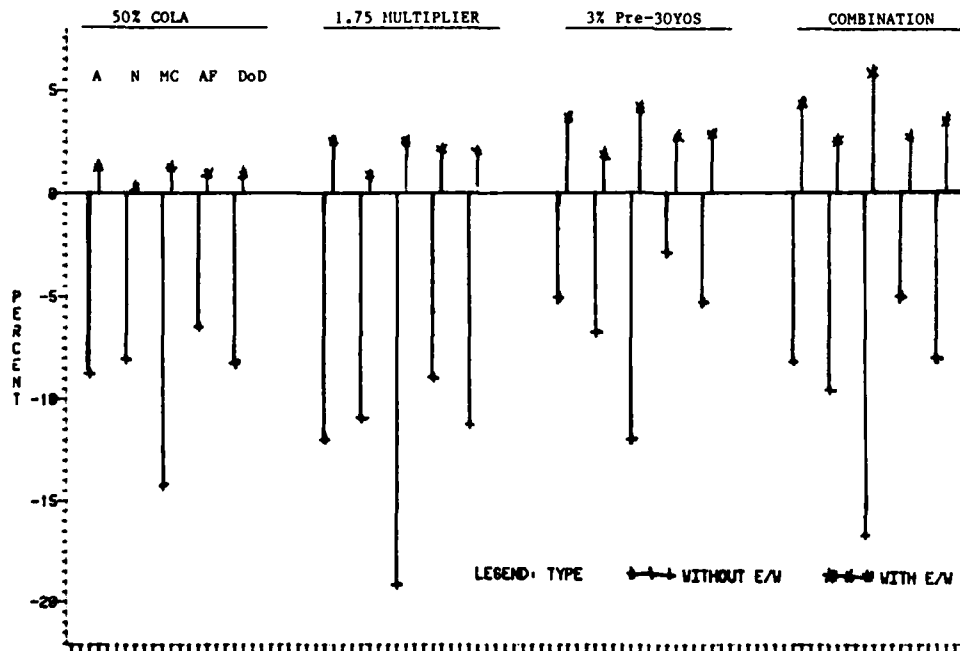


Figure XI-79

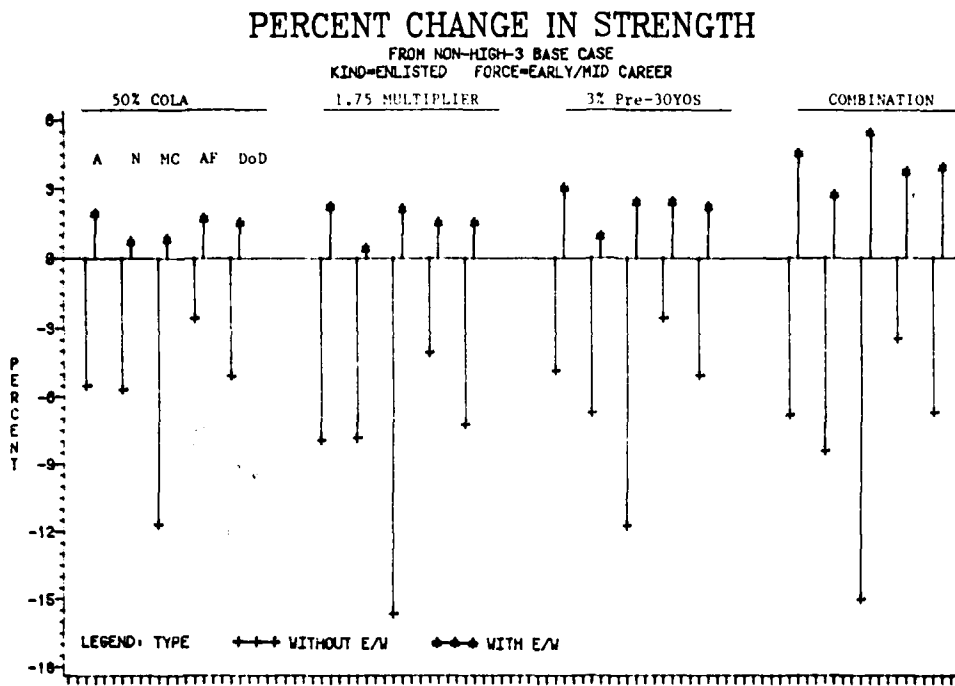
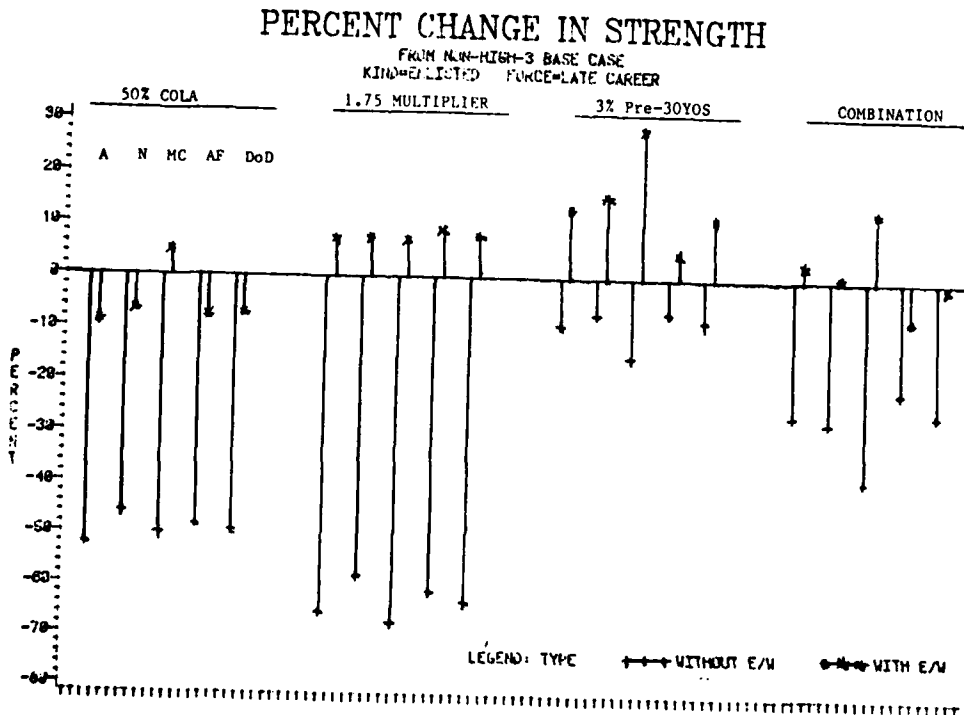


Figure XI-80



C. SPECIAL ISSUES.

1. Vesting. The subject of vesting or the determination of the conditions of service (age, years of service or both) where a servicemember becomes eligible for some form of a retirement benefit has been a central concern of all recent major studies of the Uniformed Service retirement system. The question most often asked is whether any servicemember who leaves (voluntary or involuntary) prior to eligibility for an immediate annuity (currently at 20 years of service) should be eligible for a reduced deferred benefit at a later age. Because Federal retirement plans are not subject to the requirements of the Employee Retirement Income Security Act (ERISA) of 1974 and, more recently, the Age Discrimination in Employment Act of 1979, the Uniformed Services are not required to establish such a two-tiered retirement eligibility and benefit plan.

The experience of the enlisted force since 1973 has been that approximately only one of three of those members reaching ten years of active Federal service fail to stay for 20 years and retirement eligibility. The comparable figure at 12 years of service is only one of five and for 15 to 16 years of service is only one of ten. Those losses are of course due to death, disability, resignation, and non-reenlistment, whether voluntary or nonvoluntary. However, in the case of an officer resignation or nonreenlistment, the member probably has the opportunity to join a Reserve Component and qualify for a retirement annuity at age 60, providing sufficient creditable points are earned. About 1.5% of Reserve Component new enlisted entrants have 10 or more prior years of service. The comparable figure for officers is 9%. This currently equates to about 2,000 enlisted per year and about 1,800 to 1,900 officers per year. The 2,000 enlisted represents about 15% of those who leave active service after 10 years (reference is made to Volume I, Section VIII and the RCCPDS). These inputs into the Reserve Components are significant as are, in fact, the very significant overall prior active service flow of service members. A very high percentage (currently over 80%) of new officer entrants into the Reserve Components have prior service. The enlisted is lower (over 50%) but still significant. Early vesting in the Uniformed Services retirement program would, in all likelihood, reduce this flow and, therefore, would probably be detrimental to supporting our Total Force requirements.

a. Earlier Vesting (Pre-20 YOS). The QRMCM also examined how a two-tier system would affect the active duty forces. The current retirement system was modified to examine earlier vesting for a deferred benefit for several specific cases as shown in Table XI-51.

Table XI-51
Twelve Early Vesting Scenario Combinations

<u>Year of Early Vest Eligibility</u>	<u>Age Deferred Benefit Payable</u>	<u>Point Where Benefit is COLA Adjusted</u>	<u>Case Number</u>
5,10 and 12	for each of		
	55	withdrawal from Service	1
	55	age 55	3
	60	withdrawal from Service	2
	60	age 60	4

The overall results of the 12 cases in Table XI-52 reveal that the earlier vesting occurs, and the larger the present value of the deferred payment (i.e., earlier indexing), then:

(1) the higher the career force loss, i.e., a lower force effectiveness for a given force size;

(2) the higher the accessions required for a given force size; and

(3) the higher the retirement cost impact in terms of both a higher immediate accrual payment, followed by higher long term cash (trust fund) outlays. (Table XI-53 shows the normal cost percentages and force maintenance costs for each case.)

Thus, early vesting tends to create a younger, less experienced career force. The effect is the same for enlisted and officer personnel but is more pronounced for the enlisted members. Force maintenance costs are reduced slightly but are insignificant compared to increased accrual costs.

In addition to examining early vesting in conjunction with the current retirement system benefit structure, it was also analyzed in conjunction with several alternate retirement benefit structures. As the value of the overall benefit decreased and the size of the corresponding career force decreased (no EARLY WITHDRAWAL), the impact on career force strength and accessions of early vesting was correspondingly reduced. In no instance did it help restore the desired force structure. Further, even though the strength impact was minimized, the cost still increased, but not as much as for an alternative with a higher retirement benefit structure (immediate annuity). The best example of this is the President's Private Sector Survey on Cost Control (PPSSCC, the Grace Commission) retirement alternative which allowed early vesting at 12 years of service. The normal cost percentage (NCP) with vesting was 28.09% and without was 27.86% (a difference of 0.23). The approximate comparable values for the current retirement system were 51.23% compared to 50.71% (a difference of 0.48).

Table XI-52
Impact on Base Case (7-year Average) DoD Strengths
Due to Early Vesting of Current System*

Time of Early Vest	ENLISTED				OFFICER			
	CASE 1	CASE 2	CASE 3	CASE 4	CASE 1	CASE 2	CASE 3	CASE 4
at 5 YOS								
Accessions	+3131	+1813	+ 841	+ 385	+ 644	+ 375	+ 209	+ 97
Career Force	-9655	-5596	-2602	-1196	-2340	-1360	- 759	- 352
5-20 YOS	-7746	-4505	-2057	- 946	- 873	- 537	- 258	- 127
21-30 YOS	-1890	-1079	- 538	- 248	-1402	- 786	- 477	- 218
at 10 YOS								
Accessions	CASE 5	CASE 6	CASE 7	CASE 8	CASE 5	CASE 6	CASE 7	CASE 8
Career Force	+1859	+1058	+ 539	+ 244	+ 434	+ 244	+ 149	+ 68
5-20 YOS	-5720	-3261	-1666	- 760	-1566	- 887	- 544	- 247
21-30 YOS	-4238	-2423	-1221	- 559	- 282	- 183	- 96	- 50
	-1466	- 828	- 433	- 198	-1227	- 672	- 426	- 191
at 12 YOS								
Accessions	CASE 9	CASE 10	CASE 11	CASE 12	CASE 9	CASE 10	CASE 11	CASE 12
Career Force	+1264	+ 702	+ 376	+ 169	+ 331	+ 183	+ 115	+ 51
5-20 YOS	-3881	-2178	-1158	- 527	-1203	- 669	- 431	- 191
21-30 YOS	-2704	-1525	- 805	- 367	- 82	- 63	- 32	- 17
	-1163	- 645	- 349	- 157	-1071	- 577	- 379	- 161

Case 1,5,9 - Index from time the member leaves the Service; the benefit starts at age 55.
Case 2,6,10 - Same as Case 1, but start benefit at age 60.
Case 7,8,11,12 - Same as Cases 1 and 2, but do not index benefit until benefit begins paying at age 55 or 60.

Table XI-53
Cost Impact Due to Early Vesting
of Current Retirement System*

<u>Time of Early Vesting</u>	<u>CASE 1</u>	<u>CASE 2</u>	<u>CASE 3</u>	<u>CASE 4</u>
<u>at 5 YOS</u>				
Normal Cost Percentage (NCP)	58.53	56.99	52.86	52.05
Percent Increase	+15.4	+12.4	+4.2	+2.6
Change to Force Cost (Millions)	-87	-50	-24	-11
<u>at 10 YOS</u>	<u>CASE 5</u>	<u>CASE 6</u>	<u>CASE 7</u>	<u>CASE 8</u>
Normal Cost Percentage (NCP)	53.54	52.97	51.55	51.20
Percent Increase	+5.6	+4.4	+1.7	+1.0
Change to Force Cost (Millions)	-59	-34	-17	-8
<u>at 12 YOS</u>	<u>CASE 9</u>	<u>CASE 10</u>	<u>CASE 11</u>	<u>CASE 12</u>
Normal Cost Percentage (NCP)	52.37	52.03	51.22	50.99
Percent Increase	+3.3	+2.6	+1.0	+0.5
Change to Force Cost (Millions)	-42	-24	-13	-6

*Base case force structure NCP is 50.71% and the force maintenance costs (minus retirement costs) are \$32,617 million in FY82 dollars.

These overall results indicate that there is both a cost increase and a negative force strength impact caused by the incorporation of early vesting. This is not believed to be in the best interests of efficiently supporting our mission readiness requirements. The question then becomes solely one of equity.

b. Extended Vesting (over 20 YOS). A second set of vesting options was evaluated for extended retirement eligibility for an immediate receipt of retired pay. These options were examined under two alternative sets of assumptions. First, using the historical seven-year average base case continuation patterns, the number of years of service for retirement eligibility were extended, the annualized cost of leaving (ACOL) values were adjusted, and a new pattern of continuation rates was observed. Under these conditions, the size of the career force increased marginally over the HI-3 career force for both officers and enlisted for vesting at 22 or 24 YOS, and then decreased marginally for vesting at 26 YOS. For each of these extended eligibility vesting options, the size of the officer and enlisted forces over 20 YOS increased significantly above both the HI-3 and the base case as shown in Table XI-54.

Table XI-54
Impact on Base Case (7-year Average) DoD Strengths
Due to Extended Vesting of Current System*
(Based on Historical Retention Patterns)

FORCE	FORCE SIZE IN THOUSANDS				
	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5
<u>Enlisted</u>					
Accessions	332.548	336.227	334.770	330.924	334.786
Career	774.002	762.319	768.370	780.867	769.396
5-20 YOS	718.740	720.756	669.050	640.036	628.580
21-30 YOS	54.888	41.299	98.644	139.461	138.948
<u>Officer</u>					
Accessions	25.775	26.053	25.383	25.480	26.242
Career Force	176.137	175.234	177.704	177.382	174.713
5-20 YOS	155.170	154.784	146.898	144.587	143.942
21-30 YOS	20.444	19.407	24.201	30.913	28.658

*Case 1: Base case 7-year average. Case 2: HI-3. Case 3: Vesting at 22 YOS with HI-3. Case 4: Vesting at 24 YOS with HI-3. Case 5: Vesting at 26 YOS with HI-3.

Second, assuming that peak retention rates would be observed in the year of service immediately preceding the first year of vesting, the historical retention rates were shifted to correspond to the appropriate vesting option. For example, to evaluate vesting after 22 YOS, the sevenyear average retention rates for members in their 20th YOS were shifted to 22 YOS. Similarly, seven-year average retention rates for years 6 through 19 were shifted to YOS 8 through 21. The retention rates for the first 5 years of service were left unchanged. To fill the gap between YOS 5 and 8, the seven-year average retention rate for YOS 5 was duplicated in YOS 6, while the historical retention rate for YOS 6 was duplicated in YOS 7. This retention rate shift and gap splicing procedure was used to analyze extended vesting options to

YOS 22, 23, 24, 25 and 30. Retention rates after the 20th YOS were also shifted by two years of service with those beyond year 35 being dropped. Essentially, this procedure allowed the Fifth QRM to handle the problem of projecting what the observed continuation rates might have been had an extended eligibility (over 20 YOS) compensation policy been in effect for a long time. The compensation structure regarding the value of the retired pay was changed to reflect the new vesting policy. The force profile analyzed is really a comparable seven-year average base case for each new eligibility point.

Under this alternative set of retention assumptions for the base case, the size of the officer and enlisted career forces declined significantly and accession levels increased with each extension in retirement eligibility as shown in Table XI-55. In addition, the post-20 element of the officer and enlisted career forces generally declined as fewer members reached the point of vesting.

Comparison of the extended vesting systems based on the seven-year average (unshifted) pattern of retention rates with those based on the shifted pattern, reveals different directional impacts on the career force structure. Using the unshifted pattern of retention rates to normalize the ACOL model, the change in compensation policy to vesting at 22 or 24 YOS results in a marginal increase above the HI-3 officer and enlisted career force while the same compensation policy change results in a significant reduction in the career forces (12% to 18% for enlisted; 5% to 8% for officers). This differential effect also appears in evaluating the cost impact due to extended vesting. Table XI-56 provides the entry-age normal cost percentages (NCP) associated with applying the changes in vesting policy to the current compensation system using both the unshifted and the shifted seven-year average retention rates in ACOL. For either set of retention rate assumptions, the NCP declines from the level of the current system represented as the unshifted base case. The decline in NCP is more dramatic under the shifted ACOL rates as there is a reduction in the post-20 force. For the unshifted ACOL rates, the post-20 force increased in size as the same retention patterns observed with today's 20-year retirement eligibility was assumed. Because retention patterns may be expected to shift with a change in retirement eligibility, the evaluation using unshifted ACOL rates should be viewed with caution. Also, the evaluation using the shifted rates must be examined cautiously as the adopted shift pattern was artificial and may not reflect actual behavior which would be observed under such a policy change. Both evaluations are presented here to reflect the best case and most realistic case of what actual behavior patterns would reveal in response to such changes in the vesting eligibility points.

Table XI-55
Impact on Base Case (7-year Average) DoD Strengths
Due to Extended Vesting of Current System*
(Based on Shifted Retention Rates)

FORCE	FORCE (000's)	
	CASE 1	CASE 2
	<u>Vest at 20</u>	<u>Vest at 22</u>
<u>Enlisted:</u>		
Accessions	332.548	361.511
Career	774.002	684.910
5-20 YOS	718.740	635.075
21-30 YOS	54.888	48.860
<u>Officer:</u>		
Accessions	25.775	27.832
Career Force	176.137	168.789
5-20 YOS	155.170	147.357
21-30 YOS	20.444	20.180
	<u>Vest at 20</u>	<u>Vest at 23</u>
<u>Enlisted:</u>		
Accessions	332.548	332.962
Career	774.002	713.369
5-20 YOS	718.740	647.856
21-30 YOS	54.888	64.207
<u>Officer:</u>		
Accessions	25.775	28.104
Career Force	176.137	167.755
5-20 YOS	155.170	143.741
21-30 YOS	20.444	22.420
	<u>Vest at 20</u>	<u>Vest at 24</u>
<u>Enlisted:</u>		
Accessions	332.548	377.489
Career	774.002	636.524
5-20 YOS	718.740	590.176
21-30 YOS	54.888	45.353
<u>Officer:</u>		
Accessions	25.775	29.373
Career Force	176.137	163.166
5-20 YOS	155.170	144.013
21-30 YOS	20.444	17.835

(continued on next page)

Table XI-55 (Cont.)

	<u>Vest at 20</u>	<u>Vest at 25</u>
<u>Enlisted:</u>		
Accessions	332.548	381.666
Career	774.002	623.918
5-20 YOS	718.740	581.735
21-30 YOS	54.888	41.121
<u>Officer:</u>		
Accessions	25.775	29.617
Career Force	176.137	160.683
5-20 YOS	155.170	150.878
21-30 YOS	20.444	9.187
	<u>Vest at 20</u>	<u>Vest at 30</u>
<u>Enlisted:</u>		
Accessions	332.548	390.883
Career	774.002	596.262
5-20 YOS	718.740	555.412
21-30 YOS	54.888	40.691
<u>Officer:</u>		
Accessions	25.775	33.852
Career Force	176.137	147.530
5-20 YOS	155.170	142.057
21-30 YOS	20.444	4.323

Case 1 - Base case with current retirement benefit beginning at 20 YOS.

Case 2 - Shifted retention rates with HI-3 and vesting in year indicated.

As observed in Table XI-56, the current NCP for the unshifted extended eligibility does not change. Therefore, there is no immediate reduction in the DoD accrual payment. Furthermore, the ultimate NCPs of from 44.70% to 43.46% (YOS 22 to YOS 25) are very close to the current system (HI-3) ultimate NCP of 45.25%; thus, the ultimate savings are small. This, coupled with the expected increase in force maintenance and retirement costs, makes the cost look very similar or higher than the current system. The cost picture for the shifted extended eligibility is different. Clearly, the retirement cost drops as does the ultimate NCP. However, in the near term, the current NCP remains the same; therefore, there is no reduction in the DoD accrual payment.

No reallocation analysis was performed in the shifted case because of the high degree of uncertainty about the constructed long-term base case. It is clear, however, that some form of reallocation could be used to restore the profile out to the eligibility point. Its relative cost efficiency is unknown. Further, the overall career force profile in relation to the Service needs is incorrect based on the current requirements statement.

Table XI-56
Cost Impact Due to Extended Vesting
of Current Retirement System

<u>Retention Rate Pattern Time of Extended Vesting</u>	<u>Unshifted Base Case</u>	<u>Unshifted ACOL Rates</u>	<u>Shifted ACOL Rates</u>
<u>Vest at 22 YOS</u>			
Normal Cost Percentage (NCP)	50.713	44.753	38.687
Percent Decrease	-	11.75	23.71
Change to Force Cost (Millions)	-	+0.38	-0.77
<u>Vest at 23 YOS</u>			
Normal Cost Percentage (NCP)	50.713	44.70*	38.040
Percent Decrease	-	11.84	44.47
Change to Force Cost (Millions)	-	+0.68	-0.62
<u>Vest at 24 YOS</u>			
Normal Cost Percentage (NCP)	50.713	44.331	32.419
Percent Decrease	-	12.58	36.07
Change to Force Cost (Millions)	-	+0.84	-1.03
<u>Vest at 25 YOS</u>			
Normal Cost Percentage (NCP)	50.713	43.463*	30.110
Percent Decrease	-	14.30	40.63
Change to Force Cost (Millions)	-	+0.82	-1.21
<u>Vest at 26 YOS</u>			
Normal Cost Percentage (NCP)	50.713	42.594	28.544*
Percent Decrease	-	16.01	43.715
Change to Force Cost (Millions)	-	+0.83	-1.20
<u>Vest at 30 YOS</u>			
Normal Cost Percentage (NCP)	50.713	40.062	23.784
Percent Decrease	-	21.00	53.10
Change to Force Cost (Millions)	-	+0.83	-1.20

*Extrapolated based on previous data analysis.

2. Social Security Integration.

a. The question of integrating the social security benefit with the Service retirement benefit arises because the majority of private-sector old age pension plans are, in general, integrated. Further, seven of the last nine major reviews, including the President's Private Sector Survey on Cost Control, recommended that the Department of Defense should seek legislation to integrate the Service retirement system with the social security system. To examine the issue of social security integration, the Fifth QRMC undertook a careful examination of the relationships of the current compensation system with social security. Three aspects of integrating Service retirement with social security were reviewed. These are: the implied offset form of integration; the explicit offset form of integration; and full career employment social security coverage with integration.

(1) Implied Offset: An implied offset to a service-member's social security benefit was found to exist. It stems from the failure of Congress to update the \$1,200 wage credit authorized in 1968, in recognition of the compensatory nature of Service allowances for quarters and subsistence as an element of the full value of total Service compensation for social security benefit purposes. Table XI-57 indicates that in 1968 the \$1,200 wage credit was adequate to cover the value of "payment-in-kind" as measured by the basic allowances for quarters and for subsistence. Since 1968, the social security maximum wage ceiling has increased more rapidly than has the level of basic pay. In 1983, significant wage credit shortfalls through the grade of O-4 in coverage of the "payment-in-kind" existed as shown in Table XI-58. The wage credit shortfalls translate into an implied social security offset of nearly 20% of the benefit which would accrue if full coverage of "payment-in-kind" up to the maximum wage ceiling for enlisted personnel were permitted. For officer personnel, the implied offset ranges downward from 15% to 5%, as shown in Scenarios I and II in Appendix M.

(2) Explicit Offset: Explicit integration of the current compensation system with social security benefits by inclusion of an offset against retirement benefits as proposed in the Retirement Modernization Act (RMA) was also examined. The RMA proposed an offset against the Service retirement annuity of 50% of the social security benefit on the theory that the Department of Defense makes half the social security contribution on behalf of the servicemember. It is important to note that the RMA proposal did not take into account the implicit benefit restriction already operative. Adding the 50% offset proposed by RMA to the implied offset would yield an overall offset of nearly 70% for enlisted personnel and 65% down to 55% of officer personnel.

(3) Full Career Employment Coverage with Integration: When evaluating an employment career, the Social Security Administration does not distinguish between Service and civilian covered earnings used to compute the actual social security benefit. As E. Devine and R. Kuzmack found in their paper on "Integration of Military Retired Pay and Social

Security Benefits: The Attribution Problem and Its Implication for the Private Sector," prepared for the Defense Manpower Commission, there is no method of unambiguously attributing a portion of an individual's social security benefit among employers when the individual has more than one employer.

Table XI-57
Value of Wage Credit
Compared to Its Intended Purpose (FY68)

Grade	Social Security Maximum Exceeds Basic Pay* by:	BAQ + BAS	Wage Credit Shortfall**	Shortfall as % of Basic Pay
O-10	N/A	\$2,986.56	0	-
O-9	N/A	2,986.56	0	-
O-8	N/A	2,976.63	0	-
O-7	N/A	2,976.63	0	-
O-6	N/A	2,577.95	0	-
O-5	N/A	2,430.21	0	-
O-4	N/A	2,280.57	0	-
O-3	N/A	2,086.23	0	-
O-2	\$1,787.26	1,890.18	\$587.26	7.3%
O-1	3,425.96	1,711.58	511.58	8.1
W-4	N/A	2,289.07	0	-
W-3	N/A	2,103.21	0	-
W-2	1,137.02	1,947.55	0	-
W-1	1,773.92	1,794.72	573.92	9.5
E-9	N/A	1,895.49	0	-
E-8	920.05	1,885.14	0	-
E-7	1,955.11	1,812.32	612.32	10.5
E-6	2,936.17	1,750.31	550.31	11.3
E-5	4,031.84	1,639.52	439.52	11.7
E-4	5,084.36	1,377.88	131.88	4.9
E-3	5,956.11	1,238.91	38.91	2.1
E-2	6,400.67	1,217.79	17.79	1.3
E-1	6,528.25	1,220.49	20.49	1.6

* Assumes 1 Jul 68 basic pay averages by grade for all DoD military personnel. Excludes Special and Incentive pays.

** Amount BAQ + BAS exceed \$1,200 wage credit up to the social security maximum.

1968 Social Security Maximum: \$7,800
Wage Credit: \$1,200

Table XI-58
Value of Wage Credit
Compared to Its Intended Purpose (FY83)

Grade	Social Security Maximum Exceeds Basic Pay* by:	BAQ + VHA + BAS	Wage Credit Shortfall**	Shortfall as % of Basic Pay
O-10	N/A	\$10,813.68	0	-
O-9	N/A	11,094.63	0	-
O-8	N/A	10,979.20	0	-
O-7	N/A	10,851.92	0	-
O-6	N/A	9,675.37	0	-
O-5	N/A	8,992.86	0	-
O-4	\$ 5,444.12	8,251.95	\$4,244.12	14.1%
O-3	11,156.77	6,874.15	5,674.15	23.1
O-2	17,322.35	5,840.97	4,640.97	25.3
O-1	21,791.65	5,070.27	3,870.27	27.8
W-4	7,372.24	7,524.13	6,172.24	21.8
W-3	12,938.53	6,799.19	5,599.19	29.6
W-2	16,264.83	6,451.25	5,251.25	27.0
W-1	19,385.17	5,654.54	4,454.54	27.3
E-9	10,607.43	7,773.04	6,573.09	26.2
E-8	15,002.83	7,356.08	6,156.08	29.7
E-7	18,526.68	6,892.47	5,692.47	33.1
E-6	21,549.79	6,315.31	5,115.31	36.2
E-5	24,184.43	5,572.98	4,372.98	38.0
E-4	26,105.93	4,735.11	3,535.11	36.8
E-3	27,419.93	4,425.90	3,225.90	39.0
E-2	27,985.20	3,985.79	2,785.79	36.1
E-1	28,816.80	3,743.57	2,543.57	37.0

* Assumes 1 Oct 82 basic pay averages by grade for all DoD military personnel. Excludes Special and Incentive pays.

** Amount BAQ + VHA + BAS exceed \$1,200 wage credit up to the social security maximum.

1983 Social Security Maximum: \$35,700
Wage Credit: \$ 1,200

As Table XI-59 indicates, for an individual who retires at the grade of E-7 after 22 years of Service and who works another 26 years for a civilian employer, if both the service and the civilian employer had offset provisions for their retirement system of 50% of the social security primary insurance amount (PIA), the net social security benefit would be \$162.10 or 29% of the actual PIA benefit. Similarly, an O-5 who works 22 years each in Service and civilian employment would receive a net benefit of \$154.38, or 22% of the actual PIA. Under these conditions, the offsets to retirement would significantly reduce the net benefit to the employee resulting from social security. In effect, both employers would be using the social security benefit structure to subsidize their retirement systems. Such subsidy arrangements may be encouraged by tax policy treatment of private-sector employers. In the Government, the benefit of the subsidy arrangement is not as clear, because either the Social Security Administration or another Government agency will pay the employee's benefit. The question then becomes not how to fund the retirement benefit, i.e., through direct budgeting, employee contribution, or social security subsidization, but rather what the proper level of the total benefit package is.

Table XI-59
The Attribution Problem: Member Works for Two Employers
Each Has Retirement System with
50% Social Security Offset Integration

Enlisted Case: An E-7 retires after 22 years of service and then works in civilian employment for 26 years.

<u>Employer</u>	<u>Social Security Indexed Earnings</u>	<u>PIA Benefit</u>	<u>50% Offset</u>	<u>Net Benefit to Employee</u>
Service	\$131,665	\$340.85	\$170.42	N/A
Civilian	435,296	465.70	232.85	N/A
TOTAL	\$566,961	\$565.37*	\$403.27	\$162.10 (29%)

Officer Case: An O-5 retires after 22 years of service and then works in civilian employment for 22 years.

<u>Employer</u>	<u>Social Security Indexed Earnings</u>	<u>PIA Benefit</u>	<u>50% Offset</u>	<u>Net Benefit to Employee</u>
Service	\$360,586	\$532.38	\$266.19	N/A
Civilian	599,338	583.25	291.62	N/A
TOTAL	\$959,924	\$712.19*	\$557.81	\$154.38 (22%)

*Each benefit is computed on the separate earnings streams known to the respective employer using zero earnings for missing years up to 35 years and, therefore, do not add to the total which would be computed by the Social Security Administration from 35 years of the integrated earnings stream.

b. Assessment. Proponents of explicit integration of the Service retirement system with social security often overlook the question of the total proper level benefit. They do not recognize the fact that the current retirement system already exhibits a significant degree of de facto integration and that further offsets would have the effect of redistributing the total benefits package away from lower wage annuitant retirees. Because the social security formula replaces a larger percentage of income for lower wage earners, benefit reductions would be felt more by enlisted members than by officers. Further, due to the attribution problem, officer or enlisted members who may have post-Service employment in a civilian firm which has an offset provision of 50% in its retirement plan, as shown in Table XI-59, could realize little or no future benefit from their contributions to social security. The 50% offset provision is currently the most commonly used. The employee's primary insurance amount (PIA) is computed by using the social security formula in effect when the employee terminates employment. (For additional background on this subject, see Pension Integration: Concepts, Issues and Proposals, published by the Employee Benefit Research Institute, 1983.)

To determine whether uses of the implied offset form of integration was a legally recognizable means of integrating the Uniformed Services retirement system with the social security systems, the Fifth QRMCM requested that the Office of the Secretary of Defense, General Counsel, review the discussion in Appendix M. The General Counsel response, also contained in Appendix M, states in part:

Setting the overall retirement benefit level by recognition of the reduced amount of social security benefits that inure to military retirees by reason of the effect of the "implied offset" is supportable as a matter of fact and hence may appropriately be embodied in legislation to become a governing principle of law.

The Fifth QRMCM also examined the impact on the retirement system if further integration were accomplished. As seen from Section XI.B., Table XI-29, the NCP without any integration of social security to include the Survivors Benefit Plan (SBP), is 51.4%. The increase over the FY82 50.7% NCP (1.4%) is the cost of integrating the SBP payment with social security.

There are several ways in which further integration could be implemented. If one assumes a 30% maximum or 1% per year of service, then the new NCP would be 50.0%. Table XI-50 displays the force impact for a 30% integration offset. The three ways to implement this integration for new entrants are:

Table XI-60
Force and Cost Considerations
(Social Security Offset)

ALTERNATIVE: A one percent per year of service social security offset at age 62, based on Service earnings only. Maximum offset is 30 percent. Retirement system NCP is 50.05% compared to FY82 NCP of 50.71%, or about 98.7%.

FORCE IMPACT:

Strength Change Relative to 7-Year Average Base Case without HI-3*

	YOS	ARMY		NAVY		MARINES		AIR FORCE		DoD	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
ACCESSIONS	0	+134	+1749	+56	+872	+28	+444	+177	+1143	+395	+420
CAREER FORCE	5-30+	-416	-4980	-179	-2834	-98	-1374	-618	-3932	-1311	-1312
EARLY/MID-CAREER	5-20	-92	+219	-197	-512	-12	-899	+45	+1231	-256	+3
LATE CAREER	21-30	-422	-5172	-79	-2301	-100	-473	-773	-5178	-1374	-1312

*In thousands.

Percent Change

	YOS	ARMY		NAVY		MARINES		AIR FORCE		DoD	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
ACCESSIONS	0	+1.4	+1.3	+0.9	+1.0	+1.6	+1.1	+2.0	+1.6	+1.5	+1.3
CAREER FORCE	5-30+	-0.7	-1.7	-0.5	-1.5	-0.9	-2.6	-0.9	-1.6	-0.9	-1.7
EARLY/MID-CAREER	5-20	-0.2	+0.1	-0.6	-0.3	-0.1	-1.8	-	+0.6	-0.2	-
LATE CAREER	21-30	-6.7	-26.2	-1.6	-19.9	-9.7	-13.7	-9.5	-25.7	-6.7	-23.9

(1) Calculate the appropriate dollar effect based solely on Service earnings at the time of retirement and specify the resulting amount as a percentage of the gross amount of retired pay at that time. That percentage reduction would then start at age 62. This method most heavily impacts the lower pay grades because of the social security formula and basic premise. Further, although most similar to the private sector, it does not recognize the potential of civilian post-Service earnings by the member.

(2) The second method is similar to the first, but allows the member to reduce the retired pay by a smaller percentage starting at retirement (the percent would depend on age and an actuarial calculation). This method has all the problems or disadvantages of the first, but does eliminate the larger reduction of the retired pay at age 62. By paying through the years from retirement until death, it allows the members to absorb a large part of the cost during their post-Service working years.

(3) The third method is to simply take the difference between the two NCPs of 51.4 and 50.0 and apply a constant percentage reduction to each new retiree's pay at time of retirement. This percentage for a 30% integration level would be 2.7%. This uniform percentage would apply to all retirees and would reduce, somewhat, the impact on the lower pay grades. At the same time it would impact more heavily the early retiree. This method is less costly and easier to administer because of reduced record keeping.

The third method is more consistent with the true purpose of any integration effort concerning the Service retirement system. That purpose is simply to reduce the cost to the Government, which pays both benefits. One of the primary purposes of social security integration in the private sector is to give a greater replacement of income percentage to higher wage earners. This purpose is neither appropriate nor applicable to the Uniformed Services retirement system despite the critics. The only purpose of integrating social security with the Service program (actually for the total Federal Government) is to reduce total Federal work-related entitlement costs. Given that is the purpose, why not approach it in such a manner as to determine the most efficient and practical method? It has already been shown that the total cost to the Federal Government or, said differently, the level of Federal work entitlement benefits paid to retired servicemembers (based on their Service earnings), is depressed from what others, including the Federal Civil Service receive for a comparable income earnings history. The Fifth QRMC does not support further integration for this, and previously stated, reasons. Any modification of the retirement system should be to enable it to accomplish its intended purpose, not solely as a cost avoidance measure.

3. Member Contribution Alternatives. The Uniformed Service members are among a very small group of Federal or State employees who do not contribute to their retirement or old age pension plan. All but four (DoD, PHS, Coast Guard and NOAA) of the thirty eight true Federal retirement plans are contributory. The most populous is the Civil Service Retirement System in which the contribution level is 7% of salary for most employees. Among the fifty State retirement systems, forty-seven are contributory. Thirty-two of these (47) contributory systems use a uniform contribution rate, varying as shown in the following Table IX-61.

Table IX-61
State Retirement Programs with
Uniform Contribution Percentage Levels

<u>% of Salary Contribution</u>	<u>Number of State Plans</u>
2-2.9%	1
3-3.9	3
4-4.9	7
5-5.9	10
6-6.9	8
7 or greater	3
TOTAL	32

The other fifteen contributory plans are called step-rate plans, where the contribution level varies above and below the social security wage base. This is a form of social security integration. Forty-three of the fifty State plans are covered under social security. Except for the fifteen step-rate plans described above, practically none of the plans include social security integration. It is believed that this is due mainly to the fact that most of the systems were designed prior to the establishment of OASDI.

Unlike the public-sector plans, over 80% of the private-sector old age pension plans are non-contributory. Further, the trend since 1960 has been a steady increase in the non-contributory percentage. The difference results from the fact that, in general, employers can provide a higher disposable income at the same payroll cost by paying the contribution to the retirement fund themselves. This occurs because, when the amount to be contributed to the retirement fund is paid to the employee, it becomes taxable income and thereby subject to social security deductions. To establish an equivalent disposable income would require that an amount greater than the deduction be paid to the employee.

This contrasts with the public sector where the motivation for making the plans contributory is to reduce the payroll cost. As seen previously in this report, there are a number of alternate ways to affect the cost of the Uniformed Services retirement plan; the method selected should be based upon the objectives and requirements that this plan must

fulfill. Eight of nine previous studies of this subject have recommended against a contributory system for the Uniformed Services. The major reasons given are as follows:

- A non-contributory plan of retirement is traditional with the Services and particularly suited to a Government agency.

- To establish a contributory plan would only create a large, extra expense to the Government in providing the administrative and clerical personnel necessary to deduct and record the contributions.

- To make the system contributory would require an arbitrary selection of a contribution rate, which would then be added to deductions already being made for social security coverage. Implementing such a change would either represent an implicit cut in pay or require an upward adjustment in pay.

- For the majority of members, who leave the Service before retirement eligibility, a contributory system would be no more than a forced savings plan.

- To change from a non-contributory to contributory system would be counter to the prevailing trend in the private sector.

- Requiring member contribution would increase attention on the retirement system and changes to it; member equity in it; and the uses, or alternative uses of the funds accumulated. The visibility problem (member awareness of the potential value of the benefit) needs to be addressed through information and educational efforts carried to the members. It is not clear that a contributory system should be undertaken to deal with the problem of visibility.

- DoD should move to a contributory system only if necessary in order to make changes in pay/benefit ratio or compensation levels that could not otherwise be made.

The single study (First QRMC in 1967-69) that recommended a contributory system also recommended that a salary system be instituted for the Uniformed Services. The other eight did not recommend a salary system. The reasons for a contributory system given by the First QRMC were:

- An imputed retirement contribution was inequitable to members who realized no value from it because they did not serve to retirement.

- An explicit 6.5 percent retirement contribution would be vested so that the survivors, if any, of a member who died before retirement eligibility could collect the amount contributed.

- Contributions were to be made by "career" members, defined as officers, enlisted members in paygrades E-6 through E-9, and members in paygrades E-4 or E-5 with four or more years of service plus a commitment to serve at least six years.

- The contribution recommendation was linked to a further recommendation that the elements of basic pay, quarters, subsistence, Federal income tax advantage and imputed retirement contribution be combined into a full Service salary for career members.

- Comparability of Service and Federal Civil Service salaries would make it desirable to apply the same contribution rate to both.

Many servicemembers believe that they have an imputed contribution. There is not a basis of fact for this myth either in law or elsewhere. The impact of making the system contributory essentially equates to a reduction in basic pay. This is further affected in a small way by a decision as to whether the deduction is before or after taxes.

At first glance, it appears that there are several advantages to making a retirement system contributory. However, a more thorough examination of these issues indicates that there are good and sufficient reasons to keep the system non-contributory. Quite obviously, and perhaps most importantly, there are significant increases in accessions and decrements in the size of the career force associated with establishment of retirement contributions of meaningful size. This would indicate that an offsetting concomitant pay raise of an equal or greater percentage than the contribution would be required to maintain force size and personnel mission readiness. Only those who do not retire, but withdraw their contribution upon separation, stand to gain in a contributory system. The Government has not gained, since in effect, it is paying a bonus, in the form of a forced savings account while they were on active duty to those individuals who do not stay until retirement. Accordingly, it is concluded that the Uniformed Services retirement system should remain non-contributory.

The force impact of a 3.5%, 7% and 10% basic pay contribution (equates roughly to the 7% Civil Service contribution as basic pay is 69% of BMC, on average) is shown in Tables XI-62, XI-63, and XI-64.

Table XI-62
Force and Cost Considerations
(Contribution of 3.5% of Basic Pay for Retirement Benefit)

ALTERNATIVE:

Maintain current retirement system but require member contribution of 3.5% of basic pay.

FORCE IMPACT:

Accessions up. Career force down. Strength changes, in the thousands, relative to the average base case force.

	ARMY		NAVY		MARINES		AIR FORCE		DOD	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
YOS										
0	+ 0.5	+ 5.1	+ 0.3	+ 2.6	+ 0.1	+ 1.3	+ 0.6	+ 2.6	+ 1.5	+ 11
5-30+	- 1.6	- 13.4	- 1.1	- 8.2	- 0.3	- 3.8	- 1.9	- 8.8	- 4.8	- 34
5-20	- 0.5	- 6.2	- 0.5	- 4.6	- 0.1	- 2.9	- 0.2	- 1.9	- 1.2	- 15
21-30	- 1.1	- 7.2	- 0.6	- 3.5	- 0.2	- 1.0	- 1.7	- 6.9	- 3.6	- 18

COST IMPACT:

Normal cost percentage of retirement would reduce from 50.71% to 47.21% (a 6.9% reduction on current actuarial rates). No reduction to the retirement trust fund outlays in the near term.

Table XI-63
Force and Cost Considerations
(Contribution of 7% of Basic Pay for Retirement Benefit)

ALTERNATIVE:

Maintain current retirement system but require contribution of 7% of basic pay.

FORCE IMPACT:

Accessions up (+19,000). Career Force down (-56,000) enlisted. Strength changes (in thousands) relative to the seven-year average base case force.

	ARMY	NAVY	MARINES	AIR FORCE	DOD
	OFF / ENL	OFF / ENL	OFF / ENL	OFF / ENL	OFF / ENL
YOS					
0	+ 0.9 / + 8.5	+ 0.6 / + 4.4	+ 0.2 / + 2.2	+ 0.9 / + 4.2	+ 2.5 / +19
5-30+	- 2.6 / -22.3	- 1.9 / -13.8	- 0.5 / - 6.4	- 3.0 / -14.1	- 8.0 / -56
5-20	- 0.9 / -13.1	- 0.8 / - 9.0	- 0.2 / - 4.9	- 0.6 / - 5.2	- 2.5 / -32
21-30	- 1.6 / - 9.8	- 1.0 / - 4.8	- 0.3 / - 1.5	- 2.4 / - 8.8	- 5.4 / -25
ACCESSIONS					
CAREER FORCE					
EARLY/MID-CAREER					
LATE CAREER					

COST IMPACT:

Normal cost percentage of retirement would reduce from 50.71% to 43.71% (a 13.8% reduction on current actuarial rates). No reduction to the retirement trust fund outlays in the near term.

Table XI-64
Force and Cost Considerations
(Contribution of 10% of Basic Pay for Retirement Benefit)

ALTERNATIVE:

Maintain current retirement system but require contribution of 10% of basic pay. Analogous to current Civil Service contribution of 7% of salary.

FORCE IMPACT:

Enlisted accessions up (+25,000). Career Force down (-75,000). Strength changes (in thousands) are relative to the 7-year average base case force:

	YOS	ARMY		NAVY		MARINES		AIR FORCE		DOD	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
ACCESSIONS	0	+ 1.2	+11.3	+ 0.8	+ 5.9	+ 0.2	+ 2.9	+ 1.2	+ 5.5	+ 3.4	+25
CAREER FORCE	5-30+	- 3.5	-29.9	- 2.6	-18.5	- 0.7	- 8.5	- 4.0	-18.5	-10.8	-75
EARLY/MID-CAREER	5-20	- 1.4	-19.0	- 1.1	-12.7	- 0.3	- 6.7	- 1.0	- 8.2	- 3.8	-46
LATE CAREER	21-30	- 2.0	-10.8	- 1.4	- 5.7	- 0.4	- 1.5	- 2.9	-10.2	- 6.8	-28

COST IMPACT:

Normal cost percentage of retirement would reduce from 50.71% to 40.71% (a 19.7% reduction based on current actuarial rates). No reduction to retirement trust fund outlays in the near term.

4. Previous Major Proposals. There are several previous major retirement plan proposals that have evolved from large study efforts. The following paragraphs will address the impact these proposals would have had on the FY82 base case force profile. This analysis was conducted using the same analytical techniques developed by the Fifth QRCM for its more general study of alternative retirement considerations. In each case the HI-3 averaging of basic pay has been used to conform to today's environment rather than HI-1 or HI-2 as proposed by those earlier plans. Force and cost impacts have been provided. Transition budget considerations were not analyzed.

a. Retirement Modernization Act (RMA). This proposal is described in Appendix B and in Table XI-65, along with the numerical and percentage changes in career force strengths and accessions. It reduces the enlisted career force beyond the impact of just HI-3 by about 3.5% (2.1% reduction for officers). Accessions would be raised about 3% for enlisted and 4% for officers. There are no short-term trust fund outlay savings and about a 5% reduction in the long-term trust fund budget (30 to 40 plus years). The normal cost percentage (NCP) using today's actuarial rates is 46.72% which equates to a 7.9% reduction relative to 50.71%. This would produce about a 1.3 billion dollar reduction in the FY85 DoD accrual payment.

b. Uniformed Services Retirement Benefit Act (USRBA). This proposal, which resulted from a DoD review of the PCMC, is described in Appendix B and in Tables XI-66 and XI-67. Although a very complex proposal, it incorporated an EARLY WITHDRAWAL feature which would have restored some of the career force losses that the basic proposal produced. The NCPs shown in Tables XI-66 and XI-67, based on today's actuarial rates, are 45.52% without the EARLY WITHDRAWAL feature and 43.21% with it. (To help associate this with the earlier QRCM alternatives, an NCP of 37.68% has been calculated without the EARLY WITHDRAWAL, but still reducing the benefit value as if the EARLY WITHDRAWAL had been taken). The reductions in DoD accrual payment costs are 14.8% and 10.2%, respectively, and would result in reducing FY85 DoD accrual payments by \$2.5 and \$1.7 billion. The percentage reduction in long-term budget outlays from the trust fund would be about 12.6% and 7.5%, respectively.

Overall, the impact on the career forces for the USRBA option with the EARLY WITHDRAWAL is not as severe as most of the other proposals. In fact, if the option did not include early vesting (which is of no value to building the required force) the cost would be reduced even more. Also, the early separations anticipated from the vesting and the borrowing of early vested benefits would not be encountered. This observation is consistent with the earlier Fifth QRCM early vesting analysis. The remaining force impact, if early vesting were eliminated, would probably be the result of the HI-3 and the social security offset, both of which reduce the lifetime retirement pay present value.

Table XI-65
Force and Cost Considerations
(Retirement Modernization Act)

ALTERNATIVE:

Full CPI COLA from time of servicemember's departure. Early vesting at 10 YOS and on; deferred benefit paid at age 60. Standard 2.5% multiplier from 0-24 YOS, 3% for 25-30, with maximum of 78%. For retirement before 30 YOS, subtract 15% until 30th anniversary. Social security offset is 50%.

FORCE IMPACT:

Strength Changes Relative to 7-year Average Base Case without HI-3*

	YOS	ARMY		NAVY		MARINES		AIR FORCE		DOD	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
ACCESSIONS	0	+ 474	/ + 4927	+ 271	/ + 3664	+ 66	/ +1752	+ 488	/ +1947	+1299	/ +12
CAREER FORCE	5-30+	-1610	/ -13920	- 960	/ -11632	-235	/ -5343	-1754	/ -6723	-4557	/ -37
EARLY/MID-CAREER	5-20	- 905	/ - 9621	-1112	/ - 9918	-224	/ -4708	-1388	/ -3590	-3629	/ -27
LATE CAREER	21-30	- 881	/ - 4285	- 37	/ - 1796	- 47	/ - 652	- 622	/ -3249	-1587	/ - 9

*In thousands

Percent Change

	YOS	ARMY		NAVY		MARINES		AIR FORCE		DoD	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
ACCESSIONS	0	+ 5.1	/ + 3.6	+4.4	/ + 4.1	+3.8	/ + 4.5	+5.7	/ + 2.8	+5.0	/ + 3
CAREER FORCE	5-30+	- 2.9	/ - 4.8	-2.4	/ - 6.0	-2.2	/ -10.1	-2.5	/ - 2.8	-2.6	/ - 4
EARLY/MID-CAREER	5-20	- 1.8	/ - 3.6	-3.2	/ - 5.4	-2.3	/ - 9.6	-2.3	/ - 1.6	-2.3	/ - 3
LATE CAREER	21-30	-14.0	/ -21.7	-0.1	/ -15.6	-4.6	/ -18.9	-7.7	/ -16.1	-7.8	/ -18

COST IMPACT:

There are no short-term trust fund outlay savings and about a 5% reduction in the long-term trust fund budget (30 to 40+ years). The normal cost percentage using today's actuarial rates is 46.72% which equates to a 7.9% reduction relative to 50.71%. This would produce about a \$1.34 billion reduction in the FY85 DoD accrual payment.

Table XI-66
Force Considerations With EARLY WITHDRAWAL
(Uniformed Services Retirement Benefit Act)

ALTERNATIVE:

Full CPI COLA from time of servicemember's separation/retirement. Early vest at 10 YOS, payable at age 60. Immediate annuity at 30, but reduced until age 60 unless retire at 36 YOS. Maximum of 76.25% of basic pay. Social security offset is 1.25% per year to a maximum of 37.5%. EARLY WITHDRAWAL of up to 20 months basic pay (assumed all did at 20 years), but reduce retired pay nine percentage points for life (i.e., 76.25 minus 9.0 is 66.25).

FORCE IMPACT:

Strength Change Relative to 7-Year Average Base Case without HI-3*

	ARMY		NAVY		MARINES		AIR FORCE		DOD	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
YOS										
0	+164	+1458	+147	+30	+27	-138	-84	-773	-422	-2339
5-30+	+434	+3187	+472	+244	+83	+300	+231	+2498	+1220	+5741
EARLY/MID-CAREER	-134	+3950	-426	+679	-35	+137	-361	+3381	-956	+6515
LATE CAREER	+305	-787	-646	+289	+73	+387	+284	-1030	+1308	-1141

*In thousands

Percent Change

	ARMY		NAVY		MARINES		AIR FORCE		DOD	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
YOS										
0	+1.8	+1.1	-2.4	-	-1.6	-0.4	-1.0	-1.1	-1.6	-0.7
5-30+	-0.8	+1.1	+1.2	+0.1	+0.8	+0.6	+0.3	+1.0	+0.7	+0.7
EARLY/MID-CAREER	+0.3	+1.5	-1.2	+0.4	-0.4	+0.3	-0.6	+1.5	-0.6	+0.9
LATE CAREER	-4.8	+4.0	-12.9	-2.5	+7.1	+11.2	+3.5	-5.1	+6.4	-2.1

COST IMPACT:

The NCPs are 45.52%, without the EARLY WITHDRAWAL feature and 43.21%, with it. The reductions in DoD accrual payment costs, 14.8% and 10.2%, respectively, would result in reducing FY85 DoD accrual payments by \$2.5 and \$1.74 billion. The percentage reduction in long-term budget outlays from the trust fund would be about 12.6% and 7.5%, respectively.

Table XI-67
Force Considerations Without EARLY WITHDRAWAL
(Uninformed Services Retirement Benefit Act)

ALTERNATIVE:

Full CPI COLA from time of servicemember's separation/retirement. Early vest at 10 YOS, payable at age 60. Immediate annuity at 30, but reduced until age 60 unless retire at 36 YOS. Maximum of 76.25% of basic pay. Social security offset of 1.25% per year to a maximum 37.5%. EARLY WITHDRAWAL up to 20 months basic pay (assumed all did at 20 years), but reduce retired pay 9 percentage points for life (i.e., 76.25 minus 9.0 is 66.25).

FORCE IMPACT:

Strength Change Relative to 7-Year Average Base Case without HI-3*

	ARMY		NAVY		MARINES		AIR FORCE		DOD	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
YOS										
0	+ 638	/ + 5284	+ 358	/ + 3428	+ 82	/ +1716	+ 606	/ +2276	+1684	/ +12704
5-30+	-2157	/ -14759	-1259	/ -10841	-290	/ -5210	-2164	/ -7735	-5870	/ -38545
EARLY/MID-CAREER	- 98	/ - 9912	-1318	/ - 8796	-283	/ -4527	-1694	/ -3741	-4393	/ -27026
LATE CAREER	-1221	/ - 4839	- 130	/ - 2083	- 43	/ - 692	- 728	/ -4013	-2122	/ -11626

*In thousands

Percent Change

	ARMY		NAVY		MARINES		AIR FORCE		DOD	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
YOS										
0	+ 6.9	/ + 3.9	+5.9	/ + 3.9	+4.7	/ + 4.4	+7.0	/ + 3.2	+ 6.5	/ + 3.8
5-30+	- 3.9	/ - 5.1	-3.2	/ - 5.6	-2.7	/ - 9.9	-3.1	/ - 3.2	- 3.3	/ - 5.0
EARLY/MID-CAREER	- 0.2	/ - 3.7	-3.8	/ - 4.8	-2.9	/ - 9.2	-2.8	/ - 1.7	- 2.8	/ - 3.8
LATE CAREER	-19.4	/ -24.5	-2.6	/ -18.0	-4.2	/ -20.1	-9.0	/ -19.9	-10.4	/ -21.2

COST IMPACT:

The NCPs are 45.52%, without the EARLY WITHDRAWAL feature, and 43.21%, with it. The reductions in DoD accrual payment costs, 14.8% and 10.2%, respectively, would result in reducing FY85 DoD accrual payments by \$2.5 and \$1.74 billion. The percentage reduction in long-term budget outlays from the trust fund would be about 12.6% and 7.5%, respectively.

c. President's Private Sector Study on Cost Control (PPSSCC, Grace Commission). Three separate and distinctly different proposals were made by the Grace Commission's Defense-related task forces. One proposal was advanced by the task force charged with studying the Air Force. It reduced the percentage of pay multipliers for each year of service, deferred the pre-30 YOS retiree annuity to age 60, and eliminated any inflation protection for life. This proposal is described more fully in Appendix B of this Volume and in the PPSSCC "Task Force Report on the Department of the Air Force," Recommendations 5-1 through 5-4 (pages 44-45). Table XI-68 provides an overview of this alternative, its force impact and its cost impact. No transition analysis has been done on this or the other two alternatives, because the force impacts are so severe as to render them, in the opinion of the Fifth ORMC, non-viable. Further, the implementation of a system utilizing Basic Military Compensation (BMC) as its basis for calculation is not considered practical. The recommendation fails to recognize the operational limitations of the finance data system. Adequate historical basic pay records for members who entered active duty before September 8, 1980 do not exist. Further, there is no individual historical data on BMC, the combination of basic pay, the allowances for quarters and subsistence, and the tax advantage that accrues to a member due to the exemption from Federal taxation of the allowances. To base retired pay on a HI-3 average of BMC requires an audit trail on individual BMC for each member for each month/year. Since the tax advantage aspect of BMC is a derivative of family size, personal income and tax status, the use of BMC as a retirement base is inappropriate.

Table XI-68 illustrates that the FY82's retirement system NCP of 50.71% would be reduced to 6.92%, based on current actuarial assumptions. As the force profile changed (less people to retirement), it would drop to an NCP of 6.15%. Table XI-69 converts the actual strength impact figures of Table XI-68 to percentage reductions which can be applied to different force profiles (current objective, baseline, etc.).

The Grace Commission's second retirement proposal (OSD 24A) provides an earned income offset for retirees who have not achieved age 62. Although this proposal was not examined using the ACOL model, the NCP in the near term (today's actuarial rates) was calculated to be 19.91%. The reduction to the present value of the retirement benefit in the ACOL model would be very similar to a COLA reduction, except it would be even more severe than zero COLA until age 62 (NCP of 29.70% compared to 19.91% for OSD 24A). Therefore, some idea of the potential impact on the force strengths and profiles can be obtained by examining the COLA data presented earlier. Overall, proposal OSD 24A has serious shortcomings in relation to establishing a retirement system that supports national security objectives. Further, it rewards the non-worker in contrast to the Administration's efforts to encourage longer periods of productivity. In addition, the recommendation imposes a financial penalty for post-Service employment and introduces an income "needs test" that is not resident in any major retirement system, public or

private. Although such earned income reductions are resident in welfare programs, they are inappropriate as a feature of a retirement system. If lawful, a match with the Internal Revenue Service income tax data would be required on a continual basis; reconciliation would be costly.

The third Grace Commission alternative (OSD 24B) is described in Table XI-70, along with its associated force and cost impacts. Table XI-71 shows the force impact as percentage reductions. Again, no transition issues were addressed because of the extreme degradation of the force profile and strengths and, thus, its lack of viability as a practical retirement plan. This recommendation fails to recognize that any retirement system operates to maintain the demographic population of the active or productive force in relation to the organizational function and, as such, disregards defense and management requirements. The early vesting with a deferred annuity feature for those with less than 20 years operates as an incentive to terminate service during the very period that every effort is made to retain experienced servicemembers.

The Grace Commission's findings and recommendations regarding the basic restructuring of the Uniformed Services retirement system would not accomplish the basic purpose of that system, i.e., supporting national security objectives; although, they would reduce individual entitlements and costs. The recommendations offer no improved capability for the retirement system to better meet defense requirements. Further, the proposed changes would cause immediate recruiting and retention disincentives; and potentially would lead to an immediate unacceptable degradation of middle and senior management, in terms of both numbers and quality.

The second and third Grace Commission's retirement proposals (OSD 24A and 24B, respectively) are contained in the "Task Force Report on the Office of the Secretary of Defense," pages 213-231. These proposals are also described in Appendix B of this Volume.

Table XI-68
Force and Cost Considerations
(Grace Commission Task Force on the Department of the Air Force)

ALTERNATIVE:

Eliminates COLA for life for everyone. Changes the retirement multiplier to 1.3% of Basic Military Compensation (1.9% of basic pay compared to 2.5% today) for each year of service (e.g., 38% at 20 YOS, 57% at 30). Provides for an immediate annuity only after 30 YOS; deferred annuity for 20-29 YOS payable at age 60.

FORCE IMPACT:

Extremely severe losses in all facets of the force structure. Enlisted Marine heavily impacted. Reductions, in thousands, are from the 7-year average base case force:

	ARMY		NAVY		MARINES		AIR FORCE		DOD	
	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
YOS										
0	+2547	+17462	+1661	+10211	+317	+6331	+2123	+6375	+6648	+40379
5-30+	-8322	-48291	-5723	-32078	-1102	-18862	-7393	-21496	-22540	-120727
EARLY/MID-CAREER	-2657	-39133	-2930	-27108	-754	-16083	-3913	-17428	-10254	-99752
LATE CAREER	-5588	-9187	-2896	-5120	-403	-2761	-3946	-4377	-12833	-21445

COST IMPACT:

IMPACT ON DOD BUDGET		IMPACT ON TREASURY RETIREMENT TRUST FUND OUTLAYS	
Near Term		Near Term	
ACCURAL	-86%	PRIOR TO	-6.6%
FY85	-\$14.1B	FY85 ENTRANTS	
NCP	(6.92)	FY85-FY89	-\$6.6B
		FY85 \$M	0
		ENTRANTS	
			-84% to -86%
			Peak in 2030's at -73%

Table XI-69
Percent Force Reductions
(Grace Commission Task Force of the Department of the Air Force)

	ARMY	NAVY		MARINES		AIR FORCE		DOD	
		OFF / ENL	OFF / ENL	OFF / ENL	OFF / ENL	OFF / ENL	OFF / ENL	OFF / ENL	OFF / ENL
YOS									
ACCESSIONS	0	+ 27.4 / +12.9	+ 27.2 / +11.5	+18.2 / +16.3	+24.6 / + 9.1	+25.8 / +12.5			
CAREER FORCE	5-30+	- 14.9 / -16.8	- 14.4 / -16.4	-10.2 / -35.8	-10.6 / - 9.0	-12.8 / -15.6			
EARLY/MID-CAREER	5-20	- 5.4 / -14.7	- 8.5 / -14.8	- 7.7 / -32.7	- 6.4 / - 7.9	- 6.6 / -13.5			
LATE CAREER	21-30	- 88.7 / -46.5	- 57.5 / -44.3	-39.2 / -80.1	-48.6 / -21.8	-62.8 / -39.1			

Table XI-70
Force and Cost Considerations
(Grace Commission Proposal OSD 24B)

ALTERNATIVE:

Pays full COLA upon receipt of annuity. Vesting at 12 YOS, annuity payable at age 55 with 6% penalty from age 65. Immediate annuity available at 20 YOS with 6% penalty from YOS 30. Social security offset by 1.25% per year up to a maximum of 37.5%.

FORCE IMPACT:

Significantly increases accessions, seriously reduces career force, early/mid career force and late career force. Army officers and Marine enlisted personnel especially hard hit. Reductions, in thousands, are from seven-year average base case force:

	YOS	ARMY		NAVY		MARINES		AIR FORCE		DOD	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
ACCESSIONS	0	+1599	+14712	+826	+9075	+142	+5098	+1047	+5114	+3554	+33999
CAREER FORCE	5-30+	-5193	-40381	-2884	-28436	-497	-15266	-3700	-17261	-12274	-101344
EARLY/MID-CAREER	5-20	-1175	-33224	-2056	-24521	-512	-12856	-2579	-13513	-6322	-84114
LATE CAREER	21-30	-4209	-7219	-1333	-4149	-115	-2418	-1959	-3996	-7616	-17782

COST IMPACT:

	IMPACT ON DOD BUDGET		IMPACT ON TREASURY RETIREMENT TRUST FUND	
	Near Term	Long Term	Near Term	Long Term
ACCURAL	-44.6%	-58.0%	ENTRANTS	0
FY85	-\$7.8B		PRIOR TO FY85	Some Undefined
NCP	28.09%	21.47%		Transition Savings
FORCE	0	-1.8%	FY85 \$M	
			ENTRANTS	-49% to -63%

Table XI-71
Percent Force Reductions
(Grace Commission Proposal OSD 24B)

	YOS	ARMY		NAVY		MARINES		AIR FORCE		DOD	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
ACCESSIONS	0	+16.5	+10.9	+13.5	+10.3	+8.2	+13.1	+12.1	+7.3	+13.8	+10.2
CAREER FORCE	5-30+	-9.3	-14.1	-7.2	-14.6	-4.6	-29.0	-5.3	-7.2	-7.0	-13.1
EARLY/MID-CAREER	5-20	-2.4	-12.8	-5.9	-13.4	-5.2	-26.1	-4.2	-6.2	-4.1	-11.7
LATE CAREER	21-30	-66.8	-36.5	-26.6	-35.9	-11.2	-70.2	-24.1	-19.9	-37.3	-32.4

5. Quality Aspects. The Services continue to be concerned about any impact of a retirement change on their ability to retain quality personnel. The Army specifically requested that, in any consideration of retirement alternatives, the quality of their enlisted force be considered as a vital portion of its personnel readiness capability. The Fifth QRCM agreed that if it were possible, the quality of the force issue would be incorporated into the quantitative analysis of proposed changes to the current retirement system. It was mutually agreed that as a surrogate measure for quality, aptitude (AFQT) categories would be used.

Optimally, the Army desires an enlisted force which is comprised of 65% AFQT Categories I through IIIA, 25% AFQT Category IIIB and no more than 10% AFQT Category IV. This mix has not been attained in the recent past; therefore, it was determined that the average of the aptitude category composition of the Army over time would be used to arrive at a base from which effects of retirement options could be measured and analyzed. Working with the Army staff, a data base consisting of a seven year average population (FY76 through FY82) of each AFQT category was developed and broken down by male and female servicemembers. Seven-year average population was converted into retention rates by aptitude category were developed from this data base using an exponential smoothing technique which gave heavier weight to the most recent trends in retention patterns. The resulting rates were then applied, by aptitude category, to the overall seven-year average mix in the Army (FY73 through FY82) population, 44.7% AFQT Categories I through IIIA, 25.6% AFQT Category IIIB and 30% AFQT Category IV.

The seven-year average for each aptitude category then became the base case against which the retention effects on each group were measured when different retirement options were considered. The ACOL model was used to perform the analyses of the retention patterns resulting from changes in the current retirement system. Three scenarios were used in the analysis. Scenario One examined the effects of the current retirement system using the high-three (HI-3) year average of basic pay for applying the 2.5% multiplier. Scenario Two looked at the effects of HI-3 combined with a 3% tapered reduction of the retirement annuity for service short of 30 years and a reduction of the cost of living adjustment from 100% of CPI to 75% until age 62. Scenario Three was the same as Two, except it included an EARLY WITHDRAWAL cash benefit option of three times basic pay at the end of twenty years of service.

Table XI-72 contains the results of this analysis. As can be seen, a reduction in the retirement benefit, without some restoration of benefits, results in a degradation of the career force. The option which offers an EARLY WITHDRAWAL of a portion of the total earned retirement benefit at the end of twenty years of service provides a quality force which is at least equal to that which has existed during the past seven years. It does not result in the 65/25/10 percent quality mix of the force desired by the Army, because that has not been the experience as a result of prior accessions.

Table XI-72
Summary of Quality Analysis

AFQT Category*	High-Three Years for Retirement Base			75% COLA until Age 62, 3% Tapered Reduction from 30 YOS			75% COLA until Age 62, 3% Tapered Retention from 30 YOS, EARLY WITHDRAWAL of 3 times Basic Pay at 20 YOS		
	#	%	#	%	#	%	#	%	%
Cat I									
Accessions (2588)	- 8	- 0.3	+ 199	+ 7.7	-	-	- 78	-3.0	
5-30+ (12,475)	+ 50	+ 0.5	- 567	- 4.5	+ 241	+ 1.9	+ 241	+1.9	
5-20 (11,221)	+ 268	+ 2.4	- 281	- 2.5	+ 309	+ 2.8	+ 309	+2.8	
21-30 (1,254)	- 236	-18.8	- 286	-22.5	- 68	-5.4	- 68	-5.4	
Cat II									
Accessions(19,309)	- 389	+ 2.0	+1,924	+10.0	- 184	-1.0	- 184	-1.0	
5-30+ (96,078)	-1,167	- 1.2	-5,256	- 5.5	+ 431	+0.4	+ 431	+0.4	
5-20 (11,221)	-1,126	- 1.3	-3,066	- 3.6	+1,305	+1.5	+1,305	+1.5	
21-30 (1,254)	-2,279	-21.8	-2,200	-21.0	- 893	-8.5	- 893	-8.5	
Cat IIIA									
Accessions(15,543)	+ 292	+ 1.9	+1,698	+10.9	- 199	-1.3	- 199	-1.3	
5-30+ (96,078)	- 853	- 1.2	-4,506	- 6.3	+ 479	+0.7	+ 479	+0.7	
5-20 (11,221)	+ 630	+ 1.0	-2,786	- 4.3	+ 833	+1.3	+ 833	+1.3	
21-30 (1,254)	-1,483	-18.4	-1,723	-21.4	- 350	-4.3	- 350	-4.3	
Cat IIIB									
Accessions(23,571)	+ 415	+ 1.8	+3,401	+14.4	- 606	-2.6	- 606	-2.6	
5-30+ (96,078)	-1,118	- 1.1	-8,230	- 7.9	+1,446	+1.4	+1,446	+1.4	
5-20 (11,221)	+ 159	+ 1.8	-4,932	- 5.5	+2,209	+2.5	+2,209	+2.5	
21-30 (1,254)	-2,714	-17.4	-3,298	-21.2	- 763	-4.9	- 763	-4.9	
Cat IV									
Accessions(28,514)	- 506	- 1.8	+2,124	+ 7.4	-1,433	-5.0	-1,433	-5.0	
5-30+ (124,802)	+2,000	+ 1.6	-4,830	- 3.9	+3,910	+3.1	+3,910	+3.1	
5-20 (107,856)	+2,594	+ 3.3	-2,046	- 1.9	+3,796	+3.5	+3,796	+3.5	
21-30 (16,872)	-2,013	-11.9	-2,797	-16.6	+ 84	+0.5	+ 84	+0.5	

* The numbers in () are the 7-year average base case force strengths.

The ACOL model does allow us to understand and analyze the retention behaviors of differently configured populations, be it defined by quality indicators (AFQT Category), skill category or some other characteristic. It is primarily useful in short-term analysis of special pays. The results of this short-term analysis can then be uniquely applied to these subpopulations. However, the retirement system is applied equally to all populations, or groups, and changes, whether they decrease or increase the value of the retirement benefit, is a reversible process unique to each sub-population. Therefore, unless it could be applied differently, it will not produce a different answer than when applied to the aggregate. The retirement system will serve as an incentive only if the overall compensation system is adequate to attract quality recruits in the short term and to retain the individuals to the point in time where the availability of an attractive retirement package becomes a predominant part of their career decisions. This requires a careful balance between current and deferred compensation, as well as Service force management policies. The latter must provide for quality screening, selection and the application of sufficient current compensation to induce those on the margin to stay.

The ACOL model can also be utilized to examine possible future changes in past or observed retention behavior as a result of individually applied compensation changes. It is possible to develop an aggregate force composed of uniquely tailored compensation profiles for each subpopulation (Cat I, Cat II, etc.). However, because of the very different response characteristics of these groups the achievement of a uniformly distributed aptitude category over the entire years-of-service profile is improbable. Further, it can be argued that the measurement of quality over the entire profile by the AFQT category yardstick is not appropriate. At some point, quality screening based upon demonstrated performance must take over. The use of AFQT category implies a definitive interrelationship between the unique type of leadership and productivity required by the Services and the lack of mission performance because of not achieving some AFQT category mix. No such interrelationship has been adequately defined for analytical purposes.

Volume III of the Fifth QRM report, entitled "Special and Incentive Pays," contains a further discussion of quality as it relates to compensation. Various means of quality measurement are defined, with emphasis on AFQT category, and applied to each of the DoD Services.

6. Occupational Groups. The officers and enlisted occupational groupings depicted earlier in Table IX-2 were each analyzed using the ACOL model. Due to the large data requirements and extensive computer time required to analyze all the occupational groups, their force structure reaction was examined for only a small number of the retirement options evaluated. It is important to note that the occupational groupings only imply similarity of duty, mission, or responsibility and, therefore, jobs contained in each grouping are not necessarily identical across Services. Furthermore, as noted in the Department of Defense (DoD) Occupation Conversion Manual,

Military officers have responsibilities above and beyond those inherent in any specific occupational specialty. These responsibilities, such as morale, discipline, training, planning, etc. have not been used as a basis for allocating officer occupations to DoD grouping.

Because classification policies, job requirements, and working environments differ across Services for both the officer and enlisted occupational groups, comparison of occupational force structures across Services should be made only with extreme caution. The intent of the Fifth QRMC in evaluating occupational groups is not to compare the shape of occupational force structures across Services, but rather to determine the responsiveness of those force structures to selected retirement alternatives.

The retirement alternatives evaluated at the occupational level included, but were not limited to:

- (1) the effects of HI-3 averaging;
- (2) a 3% pre-30 YOS retirement benefit decrement in conjunction with the HI-3 averaging, and 75% cost of living adjustment to age 62; and
- (3) the application to (2) above of a 200% EARLY WITHDRAWAL at 20 years of service for officers, 300% for enlisted.

Tables XI-73 through XI-78 display DoD force structure summaries for selected officer and enlisted occupational groups. As can be seen, the force structure for the officer groups Pilot, Combat Arms, and Combat Support and Naval operations under the 3% pre-30 decrement to the current retirement benefit alternative require the most accessions and sustains the smallest career force, while the EARLY WITHDRAWAL option reestablishes the career force. A similar picture is displayed for the enlisted occupational groups: Infantryman, Gunner and Seaman (Combat Arms); Support and Administration; and, Electrical/Mechanical Equipment Repair.

A description of each of the officer and enlisted occupational groups by Service, along with displays, in graphic form, of the response of each force structure to Alternatives 1, 2 and 3 described above, is contained in Appendix N. While other alternatives with and without the EARLY WITHDRAWAL characteristics were evaluated, use of the EARLY WITHDRAWAL aspect is necessary to reestablish the occupational force structure after initially degrading the value of retirement.

Table XI-73
Officer Occupation: Pilot
DoD Strengths by Retirement Plan (000's)

<u>Force</u>	<u>Base Case</u>	<u>HI-3</u>	<u>3% Pre-30</u>	<u>EARLY WITHDRAWAL</u>
Accessions	4.016	4.074	4.074	3.940
Career	33.976	33.759	31.789	34.262
5-20 YOS	29.529	29.705	28.388	29.748
21-30 YOS	4.393	4.017	3.340	4.430

Table XI-74
Officer Occupation: Combat Arms & Naval Operations
DoD Strengths by Retirement Plan (000's)

<u>Force</u>	<u>Base Case</u>	<u>HI-3</u>	<u>3% Pre-30</u>	<u>EARLY WITHDRAWAL</u>
Accessions	4.867	4.930	5.358	4.551
Career	36.909	36.681	35.131	37.995
5-20 YOS	31.774	31.651	30.881	32.006
21-30 YOS	5.062	4.765	3.907	5.501

Table XI-75
Officer Occupation: Combat Support
DoD Strengths by Retirement Plan (000's)

<u>Force</u>	<u>Base Case</u>	<u>HI-3</u>	<u>3% Pre-30</u>	<u>EARLY WITHDRAWAL</u>
Accessions	4.180	4.218	4.471	3.931
Career	33.180	33.033	33.127	34.023
5-20 YOS	24.221	29.124	28.534	29.465
21-30 YOS	3.937	3.733	3.322	4.208

Table XI-76
Enlisted Occupation: Infantryman, Gunner and Seaman
DoD Strengths by Retirement Plan (000's)

<u>Force</u>	<u>Base Case</u>	<u>HI-3</u>	<u>3% Pre-30</u>	<u>EARLY WITHDRAWAL</u>
Accessions	50.149	50.806	52.735	48.723
Career	97.951	96.043	90.569	101.759
5-20 YOS	89.678	89.692	84.931	93.908
21-30 YOS	8.229	6.316	5.986	7.778

Table XI-77
Enlisted Occupation: Support & Administration
DoD Strengths by Retirement Plan (000's)

<u>Force</u>	<u>Base Case</u>	<u>HI-3</u>	<u>3% Pre-30</u>	<u>EARLY WITHDRAWAL</u>
Accessions	44.949	45.590	48.227	43.678
Career	140.285	138.289	130.321	143.843
5-20 YOS	128.393	128.930	121.639	132.947
21-30 YOS	11.821	9.280	8.542	10.922

Table XI-78
Enlisted Occupation: Electric/Mechanical Equipment Repair
DoD Strengths by Retirement Plan (000's)

<u>Force</u>	<u>Base Case</u>	<u>High-3</u>	<u>3% Pre-30</u>	<u>EARLY WITHDRAWAL</u>
Accessions	62.091	62.751	64.644	59.893
Career	154.347	152.192	146.225	161.103
5-20 YOS	144.489	144.473	138.234	151.152
21-30 YOS	9.784	7.641	7.855	9.780

D. RESERVE COMPONENTS.

1. Introduction. The Reserve Compensation System Study (RCSS) established by Presidential direction in 1976 and completed in mid-1978 was the last major study focused only on National Guard and Reserve compensation. This study dealt with all aspects of reserve compensation, including the Reserve Components retirement system established in 1948. The study process and guiding principles of the RCSS were very similar to those of the Fifth QPMC. The RCSS was completed at a time when the primary attention in the Reserve Components was on recruitment problems rather than on retention. Consequently, some of its recommendations may have reflected the concerns of the moment.

The Fifth QPMC, by design, did not undertake a comprehensive examination of reserve compensation and specifically the Reserve Components retirement system. The major reason was insufficient time to review both the active and reserve forces. This reason, combined with the requirement to focus on the active duty retirement system and its higher cost, dictated that the active force review should be completed first. However, in conducting the active force analysis, the interface with the Reserve Components retirement system was reviewed. Further, a brief examination of the reserve retiree and cost trends and retiree entitlements was conducted. In the overall assessment of possible alternatives to the present system, two criteria were followed:

(a) Ensure that the active duty retirement system remains attractive to servicemembers, so that transferring to the Reserve Components does not become a more viable option than remaining on active duty; and

(b) Ensure that the active force profiles continue to produce a sufficient flow to sustain the Reserve Components (and the Total Force).

During the course of this review, it was found that a number of the RCSS findings are still valid. The trend data in Section VIII of this Volume, showing low enlisted flow to retirement, supports by the RCSS findings concerning the importance of current, rather than deferred, compensation. Second, the presence of a very high percentage of prior service officers who complete retirement eligibility in a Reserve Component is also consistent with the RCSS findings.

2. Current Status. Today, about 50 percent of the enlisted and 80 percent of the officer Reserve Components accessions have prior active service. It appears that reserve duty serves for some as a means of overcoming the lack of early vesting for a deferred benefit in the active forces, mostly for officers. The average YOS at entry is 3.6 for enlisted members and 4.8 for officers. The Reserve Components retiree population (all non-disabled) is growing faster than the active duty retiree population and is expected to continue this trend until the early 21st century.

(shown in Section VIII). The reserve retiree cost is just under 10% of the total and increasing. It is a heavily officer-oriented retiree population, an aspect that should be examined in more detail.

In the detailed retiree trend analysis it was found by the Fifth QRM that very poor information exists about how many reservists there are who have accumulated 20 years of creditable service but elected to be discharged rather than to be transferred to the Retired Reserve. These former members have been showing up in large, unexpected numbers on the retiree pay files once they reach age 60 and thereby become eligible for an annuity payment. Some 2,000 of the 10,000 Reserve Components retirees in FY83 were unanticipated.

The DoD Actuarial Valuation Model uses Reserve Components Common Personnel Data System (RCCPDS) information in valuing the reservists. "Blow-up" factors are computed which inflate the imputed number of new Reserve Components retirees coming directly from the active and retired reserve to the number of new Reserve Components retirees on the retired pay file. The "blow-up" factor accounts for the new retirees who were discharged earlier and who, because of data collection problems, are not present on the RCCPDS file, as well as for inactive status reservists. The "blow-up" factors are derived by dividing the number of new retirees as reported on the retired pay file by those reservists on the RCCPDS file who are assumed to retire. It is assumed that this ratio accurately reflects the level of undercounting of retiring reservists in every projection year of the actuarial valuation. Currently, the "blow-up" factors in use after the first year of the projection period are 28.05 for officers and 3.05 for enlisted members (on a DoD-wide basis). These factors imply a 27.05:1 ratio of discharged and inactive status members to active status reservists for retiring officers and a corresponding 2.05:1 ratio for retiring enlisted reservists. It can be concluded that the lack of data on the discharged reservists leaves a large and significant gap in our data base on the Service retirement system.

The sensitivity of the overall Service retirement valuation to the "blow-up" factors was tested. The "blow-up" factors were increased by 100%, 200% and 300%, in turn, and the normal cost percentages, the present values of future benefits and future salary for the normal cost group were noted. An increase of 100% in the "blow-up" factors adds 0.2% to 0.3% to the normal cost percentage.

Changes made in the manner in which Reserve Components retired pay is computed for persons who first become members of the Armed Forces after the effective date of the Department of Defense Authorization Act of 1981 (Pub. L. 96-342, 94 Stat. 1100-1102) will eventually result in a significant economic loss for those who elect discharge rather than transfer to the Retired Reserve. In the short-term, better information on discharges and Retired Reserve members who have accumulated 20 years of creditable service should be maintained. The Deputy Assistant Secretary (MRA&L) for Reserve Affairs, in a 20 November 1983 letter to the

Services, has initiated action to resolve this information problem. Continued emphasis on accurate records keeping in the RCCPDS should be encouraged.

3. Entitlement Structure. The average reserve annuity payment is about one-half that of the active duty retiree. A review of how the reserve retiree benefit is calculated revealed that, even though a reservist becomes inactive or transfers to the Retired Reserve prior to age 60, the retired pay includes this time for longevity pay raises. Further, the pay line in effect at age 60 is used for the benefit calculation, thus providing the reservist full CPI protection even though inactive. The Fifth QRMCM believes this aspect of the reserve benefit calculation should be closely reviewed, particularly if COLAs are limited for retirees in the future.

4. Application of QRMCM Retirement Alternatives. When the various Fifth QRMCM alternatives were applied to the active duty retirement system, some were incorporated into the Reserve Components retirement system to determine total retirement costs. It was always assumed that reserve retirement accessions (prior service and non-prior service) were not affected by a change in active duty benefits.

The reduced multiplier option was used in the calculation of reserve retired pay when applied to active duty retired pay. Also, the penalty for retiring under 30 YOS was also applied to reserve retirees. (It was assumed, for calculation purposes, that all reservists retire with 20 YOS). Any reduced COLA under age 62 affected reserve retirees; however, a reduced COLA under 30 YOS was not applied. No EARLY WITHDRAWALS (EWs) were given to the reservists. This option was not needed because:

a. A sufficient incentive will still exist to draw reservists to retirement without an EW. (They will still stay in until they accumulate 20 years' creditable service.)

b. Partial COLA currently affects reservists very little; because, up to age 60, they have a better inflation protection mechanism than CPI, i.e., wage growth and advancement on the pay scale.

c. Service wages are unclear in any year for reservists because their point earnings vary. Therefore, EWs, which are based on annual basic pay, would be difficult to compute.

Social security offsets were not applied to reserve retirements. This is true today for the Survivors Benefit Plan. Finally, the ACOL model could not be used to evaluate the impact of alternatives on the reserve force structure, because it is an "open" personnel system. The large numbers of lateral gains and losses cannot be handled by the current version of the ACOL model. (This was also the problem in trying to address the active duty warrant officer population.)

5. Summary. The ability of the Fifth QRMC to analyze the Reserve Components retirement system was constrained both by data limitations and by time. This limitation is recognized, especially in view of the current emphasis to shift some of our active duty responsibilities to the reserve forces. If this shift continues to be our policy, the relationship between active and reserve compensation systems becomes increasingly important, particularly in the retirement element of those systems.

As with the active forces, the compensation system for the National Guard and Reserve forces must be an integral part of the overall system by which the manpower of these forces is managed. We now depend upon the Reserve Components for a high percentage of essential wartime missions; many National Guard and Reserve units are scheduled to deploy prior to active force units. Additional review and analysis of the organization, structure and record-keeping practices for Reserve Component members and discharges who may receive retirement benefits are essential so we can better understand the impact of change on our Total Force structure.

E. IMPLEMENTATION AND TRANSITION.

1. Introduction. There are a number of critical issues related to implementing any modification to the Uniformed Services retirement system. The first, and most critical, is how to transition into the new system without degrading mission readiness. This requires a careful consideration of what, if any, part of the new system will affect current force servicemembers. Current retirees are not normally part of any such decision process; however, because the policy regarding indexing for inflation (COLA) is involved, this impact must also be reviewed. The second issue is that of resultant costs. As mentioned earlier, there are three kinds of costs. These are the DoD accrual payment (based on the NCP), the Service force maintenance costs, and the cost of the annual retiree payments. Starting in FY82, DoD retiree payments are from the Treasury trust fund. In the case of the Coast Guard, PHS and NOAA, the payments are part of their budget. The accrual accounting statute is not applicable to these Services, however, the Fifth QRMCM supports action to make this requirement applicable to these three Services in the future.

The accrual payment, based on the current NCP, was discussed earlier in this Section; however, the ultimate NCP, based on the ACOL force profiles, must also be considered. This is important because the force should begin to change over time and move toward the ACOL force projection, and, thus, the ultimate NCP value. This will produce gradually increasing reductions in the DoD accrual payments as experience dictates actually changing the then current NCP. The DoD current NCP reductions for the four Fifth QRMCM alternatives (compared to the FY82 NCP of 50.71%) were shown in Table XI-40. The ultimate NCP reductions, based on ACOL force profiles, are estimated to be 17% compared to 14% for the 50% COLA; 18% rather than 15% for the 1.75 multiplier, 11% instead of 8% for the 3% pre-30 YOS and 19% in the place of 14% for the Combination. In FY85, a 1% reduction in NCP is worth about \$0.17 billion. Therefore, the FY85 Combination alternative accrual payment would be \$2.4 billion. The 3% pre-30 YOS payment would be \$1.20 billion.

The force maintenance cost variations are relatively small, based on the assumption that a constant force size will be continued. Table XI-79 displays the data for the four alternatives with EARLY WITHDRAWAL.

Table XI-79
Defense Manpower Static Model Force Maintenance Costs
with EARLY WITHDRAWAL

Base Case	-	\$45.05B	(\$60.89B)*
50% Reduced	-	\$44.96B	(\$57.02B)
1.75 Multiplier	-	\$45.03B	(\$57.67B)
3% Pre-30 YOS	-	\$45.09B	(\$58.58B)
Combination	-	\$45.03B	(\$57.16B)

* The number in () is the total steady-state force outlay, including retirement and reallocation cost, based on DMSM costing of ACOL force profile. They are theoretical but useful for comparison.

The annual retiree outlays and the variations to these, shown previously in Tables XI-47 through XI-50, are discussed for the DoD in paragraph 3 below. No costs for Coast Guard, PHS, or NOAA were developed. The issue of reallocation policy is discussed in paragraph 4 below.

2. Force Structure. The ACOL model was enhanced by the Fifth QRMCM to enable the evaluation of the effect that implementation of an alternative retirement system would have on the force structure during transition. Each Services' force was aged two years using FY82 continuation rates in order to estimate FY84 strength mixes (by year of service). These estimated FY84 mixes serve as a basis from which a transition to a new retirement system begins. End strengths for each projected fiscal year were set at the FY82 constrained level, new strength mixes by year service computed, and the new accession levels obtained. (For a technical discussion of this aging process, see Section VI.C., Appendix I.)

Using this transition capability, the effect of implementing four policy variations relative to the current retirement system were viewed. The reader is cautioned to note that these four cases do not have a one-to-one correspondence with the alternatives listed in Table XI-79. The 1.75 multiplier and the 3% pre-30 YOS alternatives are not considered to have a significant transition effect due to complete grandfathering and, therefore, are not developed here. Rather, Cases I and II below are developed to show the effect on the force structure which results from not grandfathering cost-of-living adjustments. For each policy variation (Case I through IV), the difference between the accession levels or career force size is examined. The effect of the policy change on force strengths is compared to the strengths which would have been obtained by aging the FY84 force using the seven-year average continuation patterns. The four transition cases evaluated were:

- CASE I Current retirement system with 75% COLA for current and future non-disability retirees under age 62.
- CASE II Current retirement system with 50% COLA for current and future non-disability retirees under age 62.
- Case III Alternative retirement system based on 3% pre-30 YOS benefit reduction, EARLY WITHDRAWAL after 20 YOS of 200% basic pay for officers and 300% for enlisted members, and a grandfather clause to cover members with 12+ YOS as of 1 October 1984. All current and future non-disability retirees under age 62 receive a 75% COLA.
- CASE IV Alternative retirement system with EARLY WITHDRAWALS after YOS 20, 23 and 27 of 160%, 40% and of 50% basic pay, respectively. All current and future non-disability retirees under age 62 receive a 50% COLA.

Figures XI-81 (officers) and XI-82 (enlisted personnel) display the differences in the accession levels which would result during the first 10 years of the transition period for each of the four alternative policies. Similarly, Figures XI-83 (officers) and XI-84 (enlisted personnel) display the differences in the career force size. As the figures indicate, accession levels will increase under both 75% COLA (Case I and 50% COLA (Case II) with the 50% COLA being the worst case.

When Case IV, with EARLY WITHDRAWAL, is compared to Case II, without EARLY WITHDRAWAL, officer accession requirements drop below rather than climb above the levels required under the historical average continuation pattern of the current system (represented by the zero line). The same comparison for the enlisted force reveals lower accession levels for Case IV than for Case II. But, for the enlisted force, Case IV accession levels only approach those of the historical average and do not fall significantly below the zero line as did the officer accession levels for Case IV. Furthermore, the EARLY WITHDRAWALS in Case IV are not as effective in lowering accession levels and restoring the enlisted career force as those applied under Case III, which contains a pre-30 YOS retirement benefit reduction in combination with a 75% cost of living adjustment. Consistent with Figures XI-81 and XI-82 accession levels, Figures XI-83 and XI-84 indicate the career force size declines under Cases I and II. The EARLY WITHDRAWAL in Case IV raises the officer career force above the levels of the historical average continuation patterns of the current retirement system. For the enlisted career force in Figure XI-84, the EARLY WITHDRAWAL in Case IV pull the career force size toward and achieve the levels of the historical averages during the transition period. Again, Case III achieves a middle ground for the officer career force, and is more effective in restoring the enlisted career force to levels equal to or better than the historical average under the current retirement system.

Figure XI-81

ACCESSION LEVEL CHANGES DURING TRANSITION

BY RETIREMENT OPTION
GROUP=OFFICER

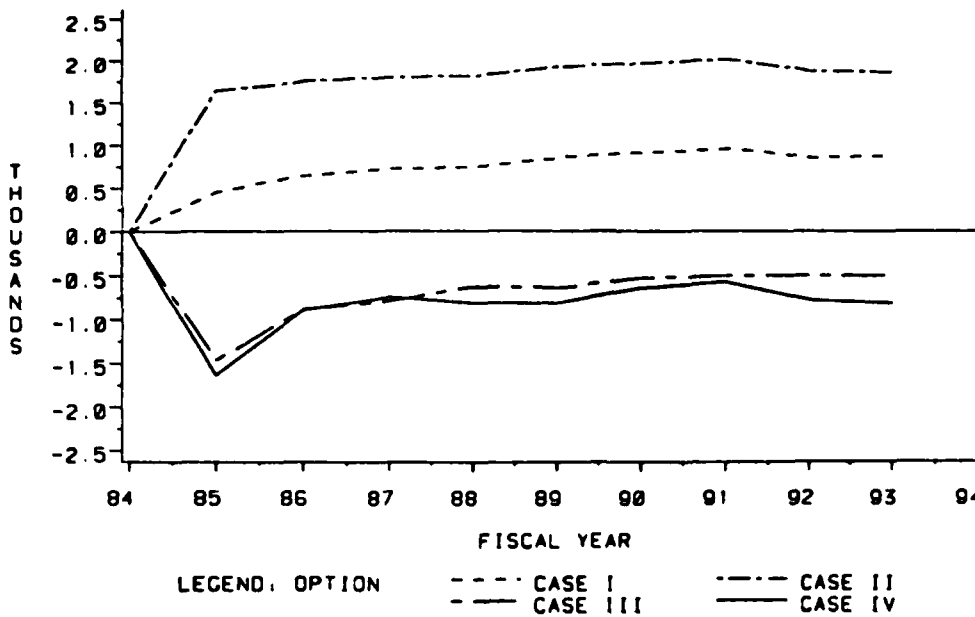


Figure XI-82

ACCESSION LEVEL CHANGES DURING TRANSITION

BY RETIREMENT OPTION
GROUP=ENLISTED

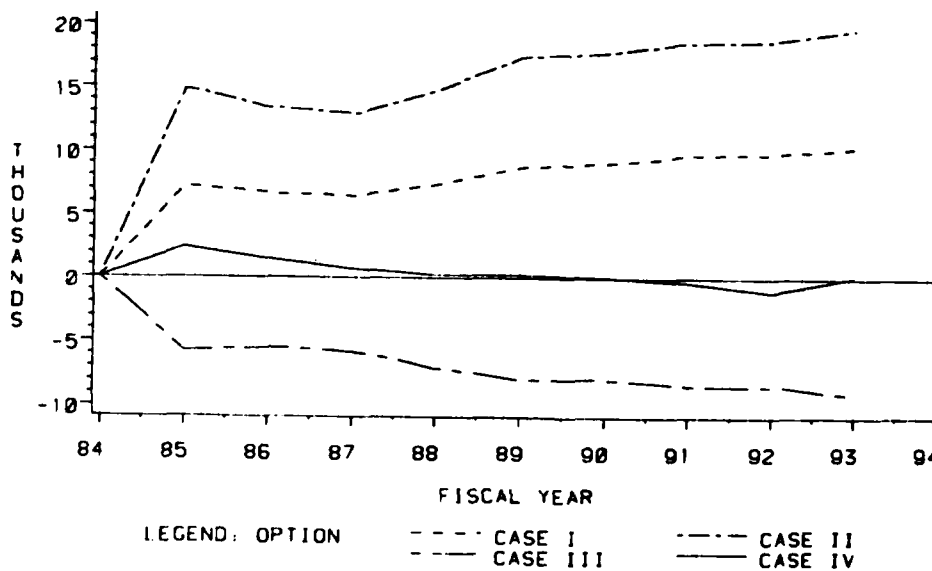


Figure XI-83
CAREER FORCE CHANGES DURING TRANSITION
 BY RETIREMENT OPTION
 GROUP=OFFICER

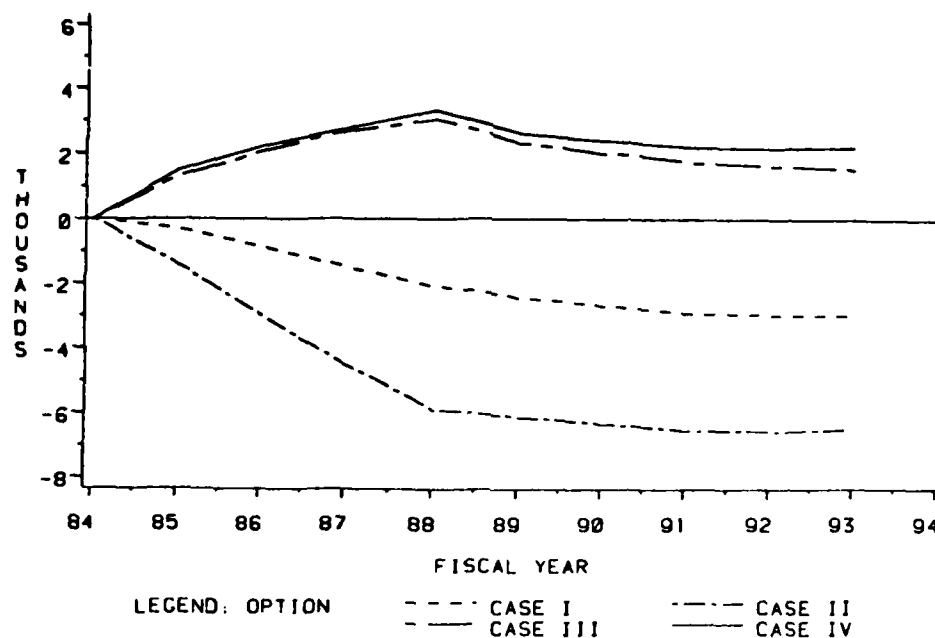
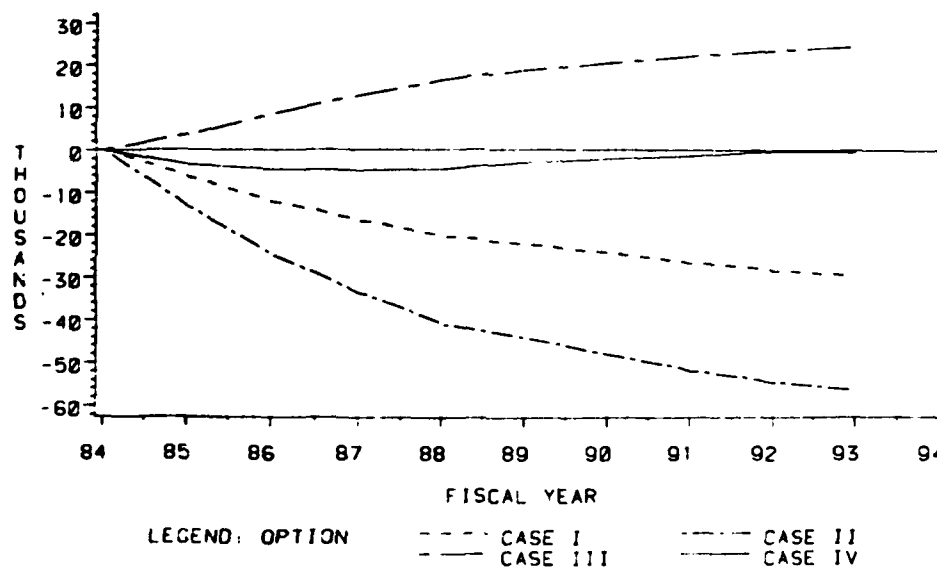


Figure XI-84
CAREER FORCE CHANGES DURING TRANSITION
 BY RETIREMENT OPTION
 GROUP=ENLISTED



3. Cost Impact.

a. Retirement Trust Fund. The four alternatives discussed in Section XI.B.9 were analyzed as to the impact on the trust fund outlays under two types of grandfathering scenarios. First, it was assumed that all alternatives would be totally grandfathered (only applicable to new entrants) with one exception; i.e., any reduced COLA would be effective immediately to all current and future retirees. The only two plans with reduced COLAs, hence an immediate savings under this type of grandfathering, were Alternative 1 (Reduced COLA) and Alternative 4 (Combination). These percent reductions are displayed in Table XI-80. In both columns, the percentage increases over time are due to the compounding effect of COLA reductions until around Fiscal Year 2005, when the first EWs are paid to new entrants. At that point, the percent savings drop sharply, but begin to rise again as the new entrants' lower benefits and population become a greater part of the entire retiree population.

The second scenario fully grandfathered all members with 12+ YOS; again, with the exception that any reduced COLA applied immediately to everyone. Members with less than 12 YOS had the option of electing into the new system. In order to obtain the boundary at the cost impact it was assumed that all members would elect into the new system. Table XI-81 contains the percentage reductions for all four alternatives.

The Reduced COLA and Combination alternatives reacted the same as in Table XI-80, except that the EW effect took place earlier, when the 11 YOS members reached 20 YOS. The ultimate savings was unchanged. The Reduced Multiplier and Reduced Early Benefit (pre-30 YOS) showed no change in outlays under this type of grandfathering, until Fiscal Year 1994 when the first EWs are paid (creating a temporary added expense). This added cost decreases overtime as the new entrant population and its lower benefit level permeates the retiree population. By Fiscal Year 2013, a trust fund savings results and begins to increase, leveling off in the out years at the percentages given in Section XI.B.9.

Figures XI-85 through XI-88 show the percent change in trust fund outlays under the three grandfathering scenarios: (1) full grandfathering; (2) full grandfathering, except reduced COLAs; and (3) grandfathering for all members with 12 or more years of service, except reduced COLAs.

Figure XI-85
 PERCENT CHANGE IN TRUST FUND OUTLAYS
 BY FISCAL YEAR
 1.75% MULTIPLIER

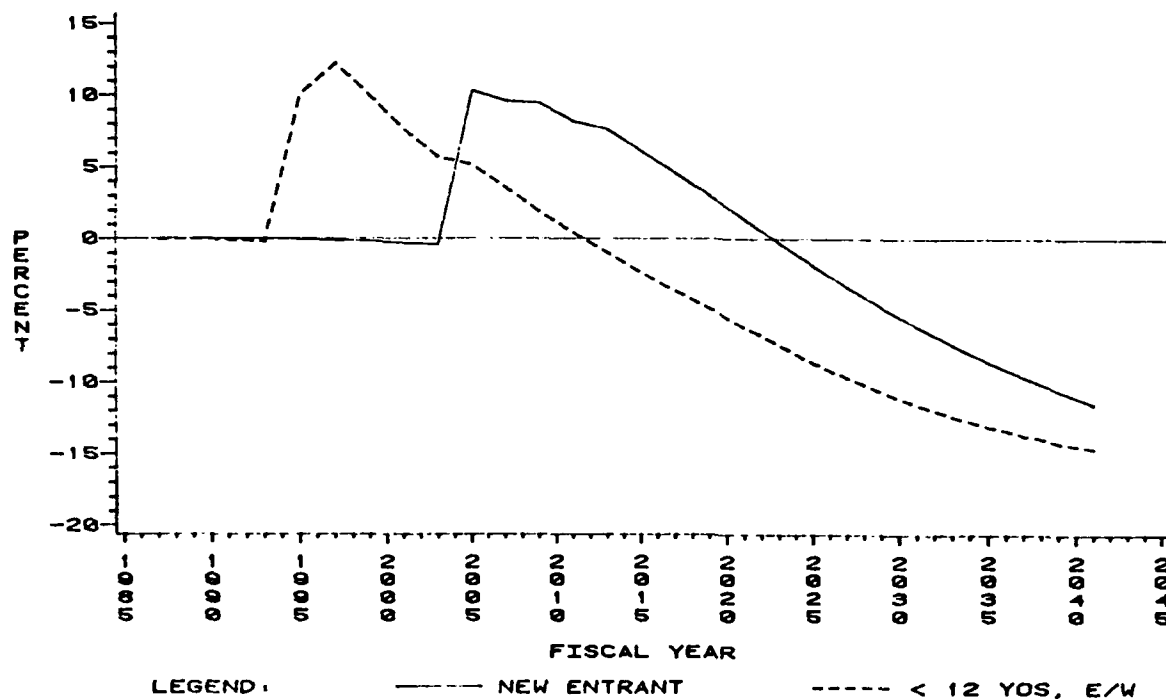


Figure XI-86
 PERCENT CHANGE IN TRUST FUND OUTLAYS
 BY FISCAL YEAR
 3% PRE-30 YOS

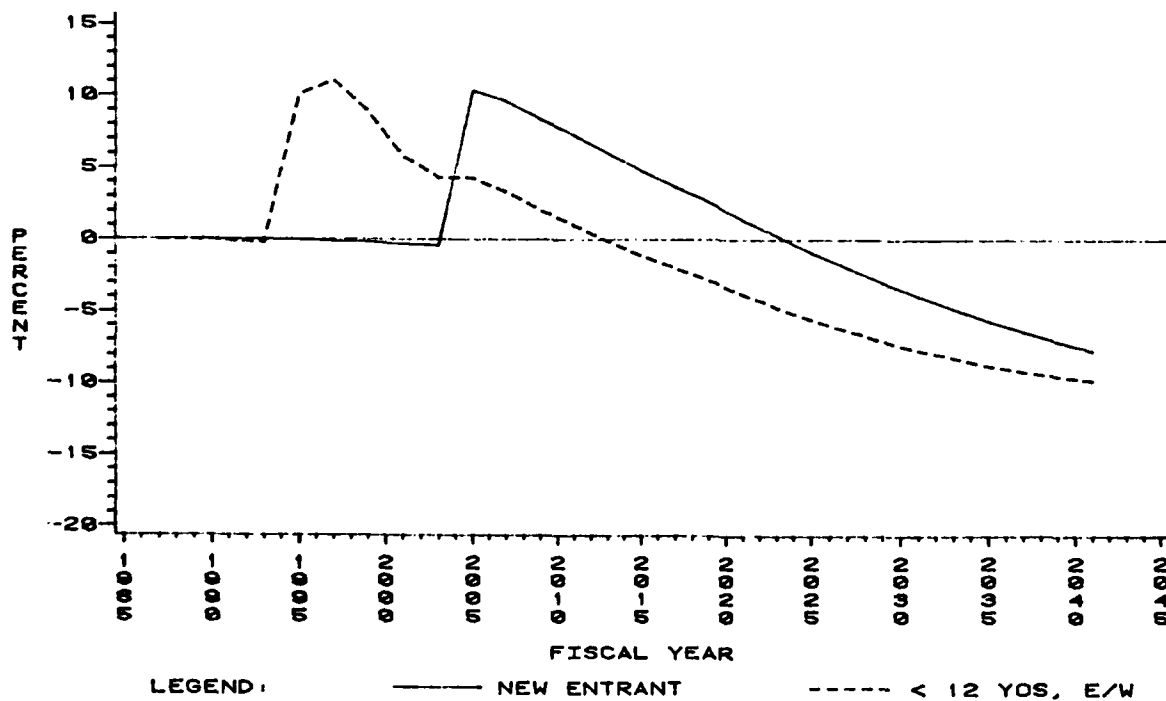


Figure XI-87
 PERCENT CHANGE IN TRUST FUND OUTLAYS
 BY FISCAL YEAR
 50% COLA TO AGE 62

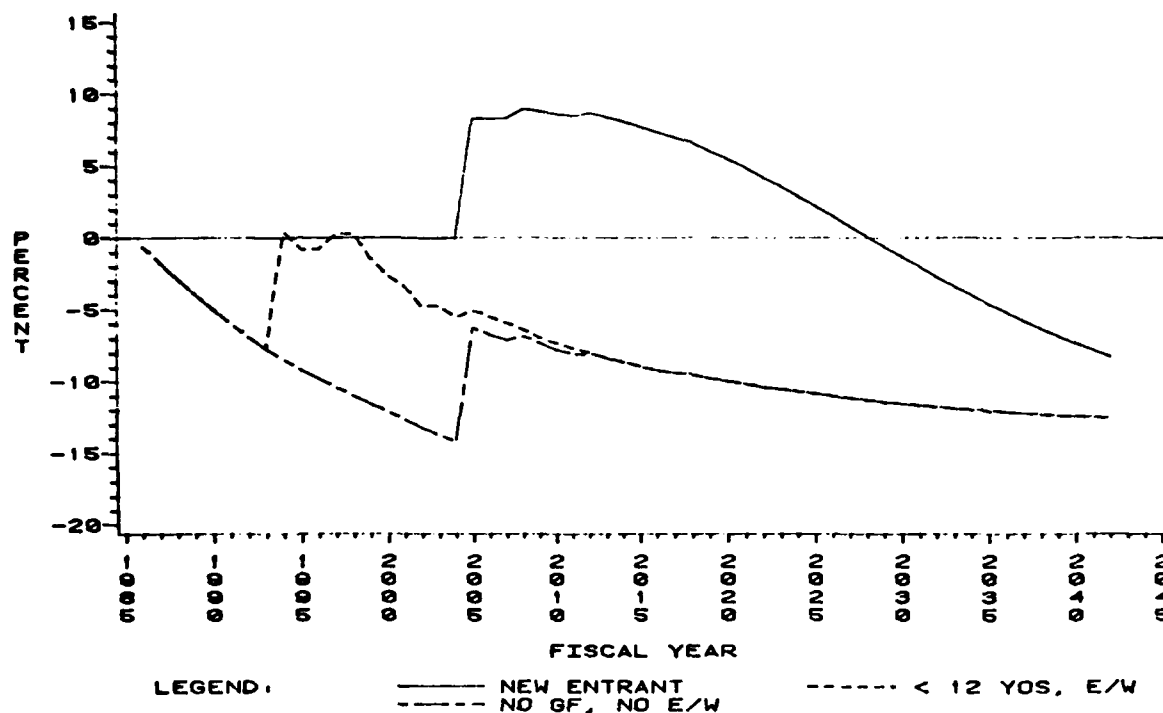
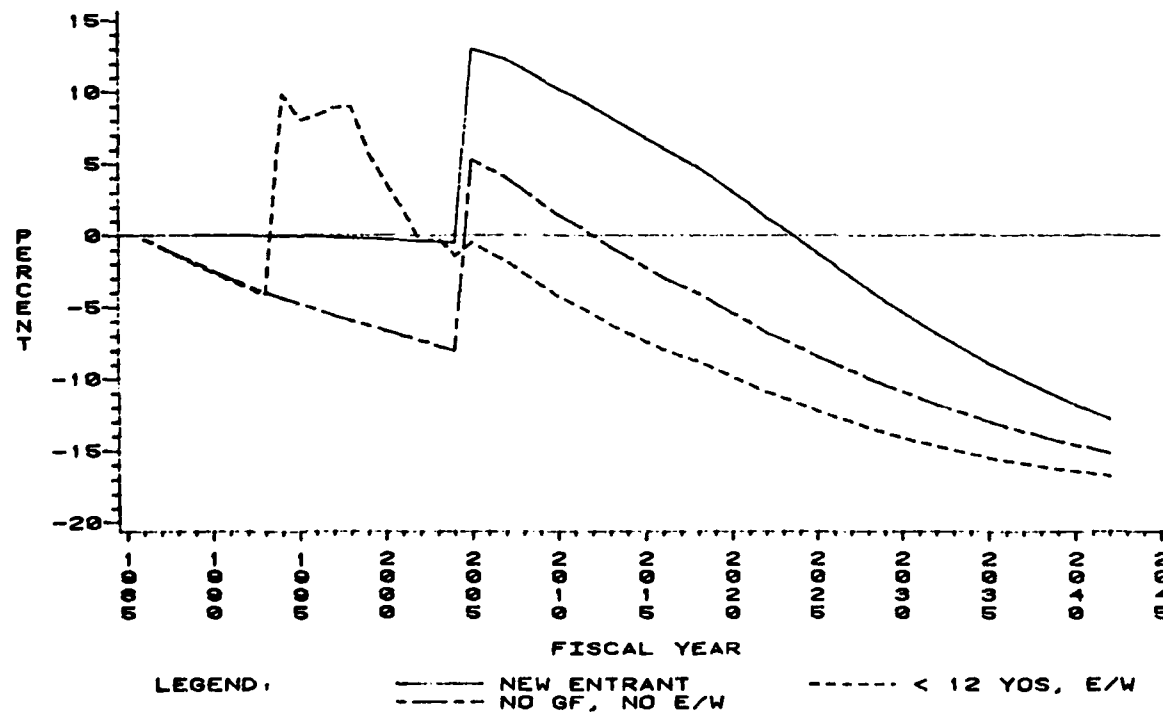


Figure XI-88
 PERCENT CHANGE IN TRUST FUND OUTLAYS
 BY FISCAL YEAR
 COMBINATION



4. Reallocation Policy. Any proposed legislation to modify the current retirement system must stress the absolute requirement that a form of reallocation must be an integral part of the new system. The reallocation is, in actuality, a part of the reduced retirement lifetime earnings (deferred compensation) to a more current timeframe. The Fifth QRM C examined a number of possible ways to do this, including setting up a modified IRA-type account for each member. (Attachments 1 through 3, at the back of this Volume, are the correspondence between the DoD General Counsel staff and the Fifth QRM C regarding this subject.) The primary concern with the more cost efficient, and thus preferred reallocation is the size of the EARLY WITHDRAWAL (EW) for which a servicemember becomes eligible at the end of 20 YOS or later. Second, and of importance to the servicemember, is the income tax consideration. Initial evaluations suggested that the EW amount be paid independent of whether or not a member retired at this point. This appeared to have undesirable perception aspects, as well as raising Service concerns about it encouraging the members to take the EW and then immediately retire. The Fifth QRM C does not believe this latter concern to be a totally valid one. Conversely, many servicemembers have a cash-flow problem at about the time of retirement eligibility because of family responsibilities (i.e., children in college). The thought is that making a part of the retirement benefit available would solve the cash-flow problem and allow them to continue to serve rather than seek higher civilian earnings. (The availability of higher civilian earnings are questionable, however, on the basis of the average post-Service earnings discussed in Section XI.F.)

The challenge then becomes how to make this earned retirement benefit, and this is an important distinction, available to the servicemember. It is fundamental to the ACOL analysis that the "carrot" must be perceived by the member as available at the point of eligibility. Interestingly, the payment of such an EW has precedent in foreign service retirement systems and is not new in the United States. In addition, capital accumulation plans in the private-sector retirement planning are of increasing importance and value. This value is readily seen in Appendix D, Attachment 1, Volume IA.

The Fifth QRM C believes that the EW should be paid at the actual time of retirement. From the time (YOS) of EW eligibility until the time of retirement, the EW would draw (accumulate) the applicable interest rate earned by the retirement trust fund. The EW will have been paid for by the DoD annual accrual payments over the servicemember's career. However, in case Congress should fail to fund the accrual payments properly, the legislation should include provision for the affected cohort group to be paid an increased multiplier to compensate for the loss. To make the money available to the servicemember at the time of eligibility, the proposed legislation should be structured to allow for an interest-only loan to the member of about 70% to 75% of the EW. The remainder should be held to protect the member's ability to pay taxes following retirement. Further, the legislation should provide for 10-year averaging of the EW for tax purposes. This should be carefully coordinated with the Internal Revenue Service to facilitate the legislative process.

Table XI-80
Percentage Reduction in Retirement Trust Fund Outlays
Complete Grandfathering of New System (except COLA) *

FISCAL YEAR	REDUCED COLA	COMBINATION	FISCAL YEAR	REDUCED COLA	COMBINATION
1985	-	-	2018	9.590	4.065
1986	0.629	0.291	2019	9.816	4.740
1987	1.805	0.882	2020	10.034	5.413
1988	2.881	1.428	2021	10.222	6.053
1989	3.951	1.978	2022	10.454	6.749
1990	5.007	2.528	2023	10.580	7.270
1991	5.987	3.048	2024	10.727	7.828
1992	6.888	3.537	2025	10.900	8.418
1993	7.720	3.997	2026	11.044	8.955
1994	8.489	4.431	2027	11.175	9.453
1995	9.205	4.845	2028	11.324	9.970
1996	9.872	5.240	2029	11.465	10.465
1997	10.490	5.614	2030	11.587	10.935
1998	11.061	5.970	2031	11.702	11.383
1999	11.603	6.315	2032	11.816	11.820
2000	12.136	6.660	2033	11.916	12.232
2001	12.671	7.010	2034	12.010	12.628
2002	13.214	7.369	2035	12.102	13.010
2003	13.740	7.721	2036	12.186	13.372
2004	14.241	8.063	2037	12.261	13.712
2005	6.288	-5.246	2038	12.328	14.031
2006	6.762	-4.601	2039	12.396	14.340
2007	7.128	-4.033	2040	12.459	14.633
2008	6.842	-3.143	2041	12.518	14.910
2009	7.338	-2.261	2042	12.576	15.177
2010	7.777	-1.422			
2011	8.114	-0.743			
2012	8.022	0.020			
2013	8.398	0.830			
2014	8.684	1.537			
2015	8.989	2.270			
2016	9.247	2.937			
2017	9.447	3.537			

*Data for the 1.75 multiplier and the 3% pre-30 YOS alternatives are the same as Table XI-47, page XI-99, and Table XI-49, page XI-101, respectively.

Table XI-81
Percentage Reduction in Retirement Trust Fund Outlays
Grandfathering after 12 Years of Service (except COLA)

FISCAL YEAR	REDUCED COLA	REDUCED MULTIPLIER	REDUCED EARLY BENEFIT	COMBINATION
1985	-	-	-	-
1986	0.621	-	-	0.312
1987	1.798	-	-	0.922
1988	2.875	-	-	1.492
1989	3.948	-	-	2.068
1990	5.007	-	-	2.646
1991	5.989	-	-	3.194
1992	6.892	-	-	3.710
1993	7.725	-	-	4.204
1994	-0.432	-11.241	-11.241	-9.808
1995	0.840	-10.077	-10.084	-8.065
1996	0.779	-10.485	-10.515	-8.353
1997	-0.283	-12.206	-11.029	-8.923
1998	-0.237	-12.161	-11.128	-9.016
1999	1.459	-9.901	-8.835	-5.867
2000	2.653	-8.276	-7.212	-3.694
2001	3.345	-7.621	-5.732	-1.793
2002	4.790	-5.657	-4.136	0.431
2003	4.769	-5.668	-4.311	0.235
2004	5.550	-4.570	-3.446	1.408
2005	5.070	-5.078	-4.242	0.504
2006	5.536	-4.286	-3.703	1.247
2007	5.949	-3.542	-3.283	1.830
2008	6.413	-2.728	-2.639	2.683
2009	6.939	-1.815	-2.015	3.501
2010	7.341	-1.093	-1.424	4.263
2011	7.691	-0.381	-0.957	4.856
2012	8.004	0.252	-0.423	5.519
2013	8.380	1.026	0.148	6.216
2014	8.667	1.697	0.640	6.803
2015	8.973	2.418	1.157	7.414
2016	9.231	3.092	1.624	7.952
2017	9.432	3.703	2.042	8.421

(continued on next page)

Table XI-81 (continued)
 Percentage Reduction in Retirement Trust Fund Outlays
 Grandfathering after 12 Years of Service (except COLA)

FISCAL YEAR	REDUCED COLA	REDUCED MULTIPLIER	REDUCED EARLY BENEFIT	COMBINATION
2018	9.575	4.254	2.408	8.816
2019	9.801	4.926	2.897	9.357
2020	10.019	5.597	3.389	9.898
2021	10.208	6.231	3.860	10.406
2022	10.440	6.926	4.377	10.970
2023	10.566	7.477	4.757	11.360
2024	10.713	8.053	5.171	11.792
2025	10.887	8.655	5.615	12.260
2026	11.031	9.202	6.010	12.671
2027	11.161	9.712	6.367	13.040
2028	11.311	10.231	6.736	13.427
2029	11.451	10.727	7.085	13.791
2030	11.573	11.182	7.411	14.129
2031	11.688	11.617	7.718	14.444
2032	11.802	12.035	8.011	14.746
2033	11.902	12.420	8.280	15.022
2034	11.997	12.780	8.534	15.281
2035	12.089	13.121	8.773	15.524
2036	12.173	13.437	8.992	15.749
2037	12.248	13.724	9.191	15.951
2038	12.316	13.985	9.370	16.133
2039	12.384	14.230	9.540	16.306
2040	12.448	14.455	9.696	16.466
2041	12.507	14.659	9.838	16.612
2042	12.567	14.849	9.971	16.750

F. POST-SERVICE EARNINGS. A review of post-Service earnings of military personnel was undertaken for two reasons. First, it provides an important measure of the civilian wage available to Service personnel who separate. As such, the opportunities and earnings levels in the civilian work force may influence the retention patterns of service-member. Second, post-Service earnings also serve as an indicator of the extent that certain groups of separatees and retirees have difficulty in making a transition to civilian life. As a result, knowledge about post-Service earnings can be helpful in setting service compensation policy related to Service retirement and Special and Incentive pays.

1. Methodology. To evaluate post-Service earnings, the Fifth QRMC obtained actual wage earnings from the Internal Revenue Service and the Social Security Administration for a sample of separatees and retirees who left military service between 1972 and 1980. (A detailed description of these data sets is contained in Appendix P.) In addition, 1980 Census data from the Public-Use Microdata Sample (PUMS) was also obtained. Both data sets were analyzed by Coopers and Lybrand. The results of their analysis are contained in Appendix Q., "Military Retirees' and Separatees' Post-Service Earnings, Dec 1983." This analysis has provided, for the first time, comparable analysis of post-Service earnings differentials for military separatees and retirees. The examination of post-Service earnings over the entire spectrum of career lengths is an important link in developing a firmer grasp of the financial incentives affecting the career choices of members of the Uniformed Services.

2. Findings. The prospect of declining post-Service earnings relative to civilians, as an individuals stay longer in the Service, creates financial incentives that probably affect the decision to separate or retire. The nature of these financial incentives can change over the course of an individual's career, and is determined by the value placed on Service experience by civilian employers.

a. Discount Rates. One measure of changing financial incentives is the present discounted value of expected future earnings streams, calculated at different career points for Service personnel. The present value of future earnings is highest for an eight-year Service career length for officers having a high rate-of-time preference (discount rate), whereas for those officers with lower rates-of-time preference, the present value of expected future earnings (including retired pay) is highest for a thirty-year Service career length. For enlisted personnel, a four-year Service career length has the highest present value for all discount rates used. After the four-year point has been passed, if the enlisted male has remained in the Service, a thirty-year length of service has the highest present value. Thus, financial incentives for officers are, in general, for eight-year career lengths, and for enlisted personnel, in general, for four-year career lengths. Once those points have been passed, the financial incentives are to remain until retirement eligibility.

b. Separatee/Retiree Earnings Profile Comparison. Both officer and enlisted retirees earn less in the private sector than as their civilian peers. The difference is much more significant for male enlisted retirees. When a Service retiree's retirement benefit is taken into consideration, the overall earnings picture significantly improves. This observation must be coupled with the fact that those reaching a career length of 20 or more years have been subjected to continuous quality screening and represent the top 10 percent of all Service personnel at 20 YOS; the top 2% at 30 YOS or greater. Clearly, these people are not the average and should be compared to the higher civilian percentile.

The difference between retirees and separatees can have an important effect on retention behavior and illustrates the need to analyze both retiree and separatee post-Service earnings. To the extent that separatees working full time fare better than full-time retirees in their post-Service careers, current officer and enlisted personnel face incentives to choose shorter Service careers and enter the civilian workforce when their post-Service earnings potential is at a peak. Many other factors affect these financial incentives; e.g., the nature of the Service retirement system clearly has an important effect on the decision to separate or retire.

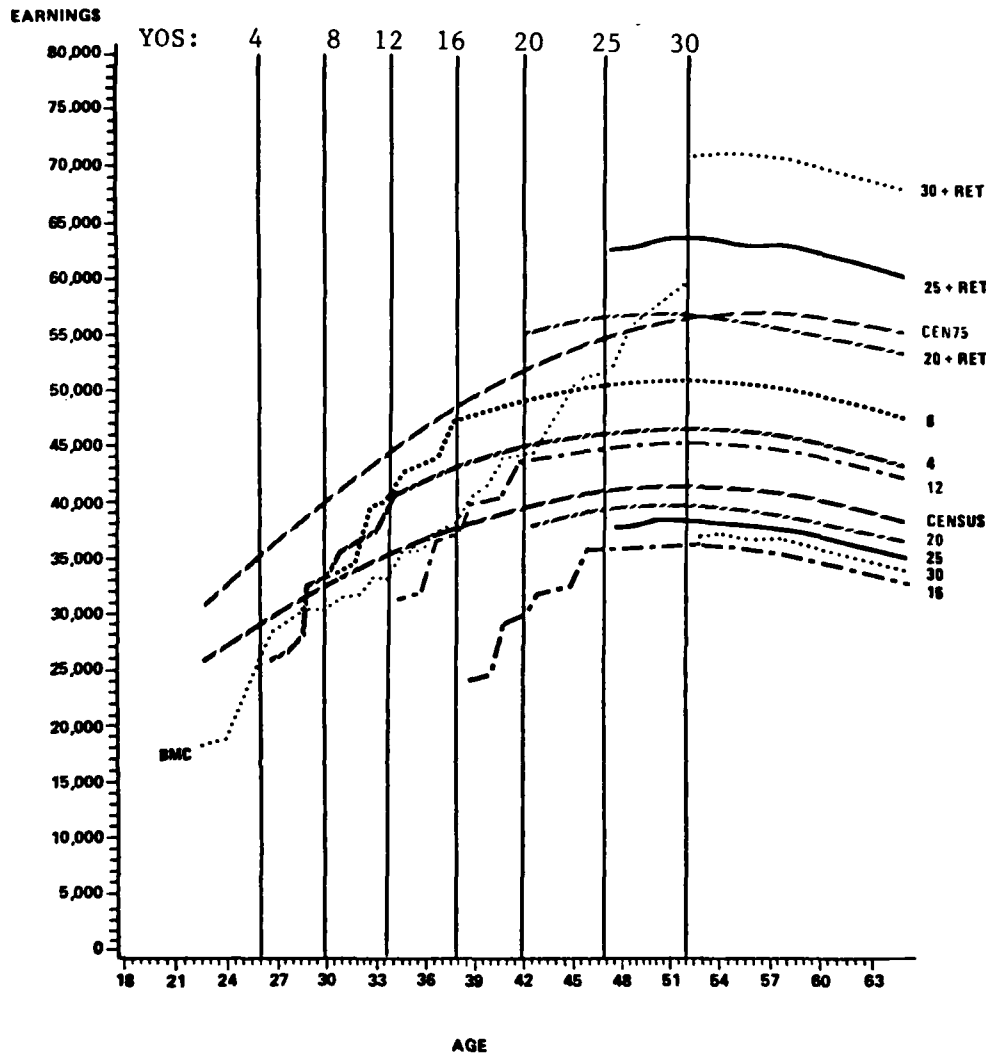
Another important finding is that officer separatees and enlisted retirees go through a significant transition period where their earnings are considerably less than those of their civilian peers. For both groups, the transition period is about seven to nine years -- earnings continue to rise relative to civilian counterparts until the end of the ninth year after separation.

The occupation-specific analyses showed striking differences between retirees and separatees in different occupations. In general, those with timely, relevant skills fare better in their post-Service careers. Service scientists, engineers, physicians and dentists earned much more, on average, than all civilians, and overall, earned about the same as civilians in comparable occupations. Individuals retiring or separating with less timely skills fared worse than civilians in the same occupation; for example, retired aviators. However, aviators who separated earlier in their Service careers fared much better in their post-Service employment. While the skills of both groups of aviators may be similar, the retirees appear to have greater difficulty finding jobs in aviation comparable to those they held in the Service.

While there are differences in the level of the earnings profile across occupations, the general pattern of post-service earnings is similar to that shown for officers and enlisted personnel in Figures XI-89 and XI-90, respectively. The earnings profiles in each figure are labeled with the years of service at time of separation; CENSUS reflects mean earnings of civilian veterans; CEN 75 shows the 75th percentile earnings level; BMC represents Basic Military Compensation; and "+RET" indicates the earnings of retirees when the retirement annuity is included.

Figure XI-89

POST SERVICE EARNINGS OFFICERS



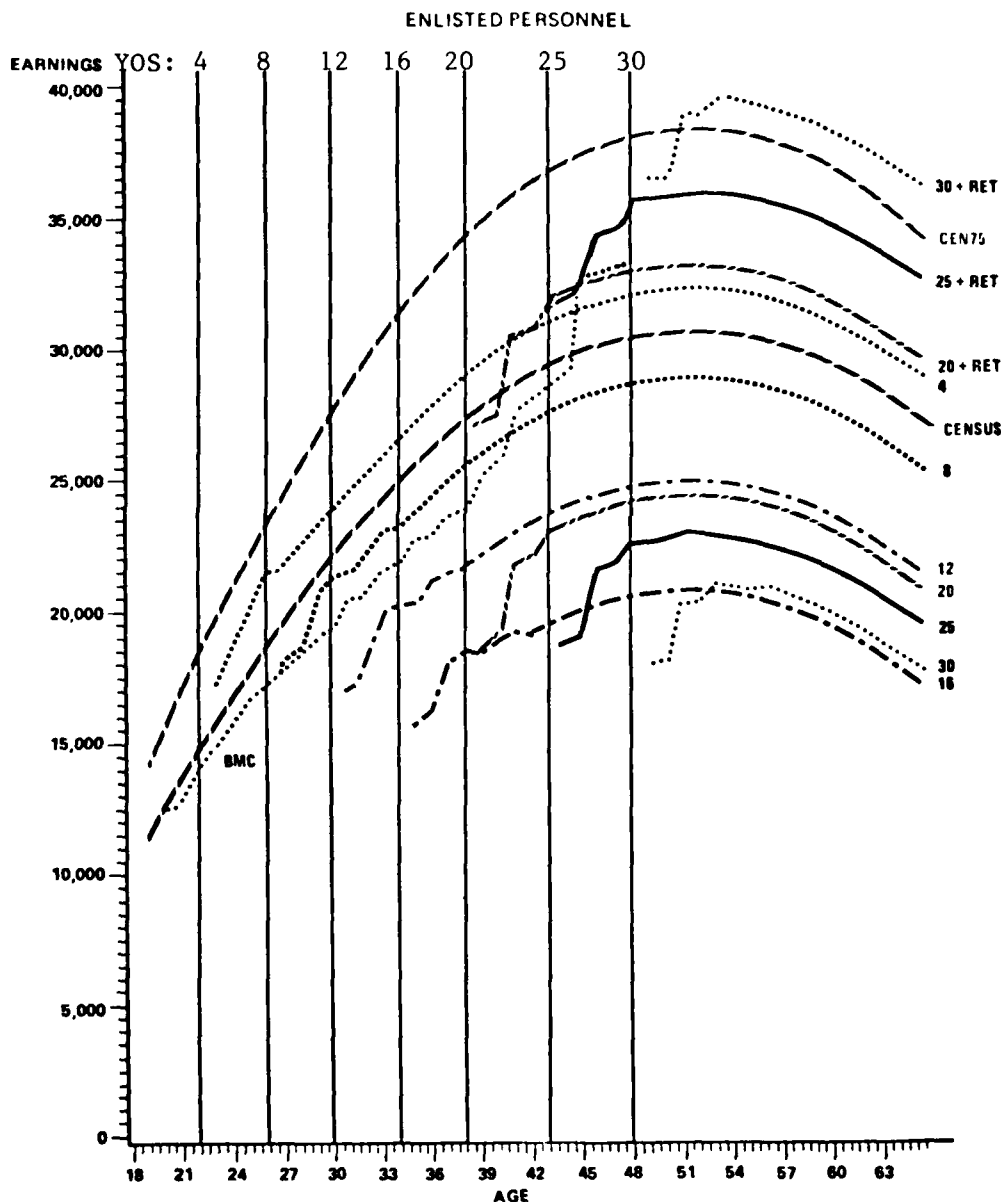
By controlling for individual characteristics such as officer or enlisted, educational level, full-time work status, service occupation, and age, the study estimates the differences between retiree/separatee and civilian earnings. As can be seen from Figure XI-89, officers separating after four years initially earn less than the mean earnings of comparably aged veterans, but catch up quickly and surpass their civilian counterparts. Officers separating after eight years start earning more than the mean earnings of comparably aged veterans, and continue to do so over the course of their careers. The post-Service earnings of this group of separatees is well above the mean Census profile and, for a time, approaches the 75th percentile. Those officers separating after 12 years show a pattern similar to that of the 4-year separatees. Officers separating after 16 years (without retiring) exhibit earnings significantly below the mean Census profile. Similarly, after 20 years of service, officer retirees have earnings profiles which lie below the mean Census profile throughout the remainder of their working lives. However, when retired pay is added to their post-Service earnings, officer retirees reach and exceed the 75th percentile earnings level.

Since the Services provide extensive opportunities for training and experience during the early segment of a career and individuals who separate (without retiring) after 16 years of service predominantly did not meet promotion standards, the levels of the post-Service earnings profiles are not counter-intuitive. The observance that officers separating after eight years of service achieve earnings approaching the 75th percentile of earnings lends credence to the effectiveness of personnel management policies which include screening of new entrants, annual effectiveness reports and promotion of the best qualified members. Note that the BMC profile lies below the earnings profile of the 8-year separatee until just beyond the 20th year of service. This means that by the 20th or 22nd year, some servicemembers will be earning as much as others of the same age who left the Service 12-14 years earlier. After the 20th year of service, the BMC profile lies in the middle between the post-Service earnings due to employment and the post-Service earnings plus retired pay. The earnings profile comparisons suggest that the ability to maintain the current manpower force structure would be adversely affected by reduction in retired pay without raising the levels of current pay. Since BMC starts well below, and rises sharply toward the 75th percentile curve, this suggests that retired pay is a form of earnings "deferred" from early (relatively low) years of service.

The portrayal of wages for enlisted personnel in Figure XI-90 is somewhat different than that of the officers. Enlisted personnel leaving after four years of service achieve an earnings profile above the mean Census profile of civilian high-school-graduate veterans. While the earnings profile of 8-year separatees is close to the mean, the profile of all other separatees are well below the mean Census profile for high school graduates. As was the case for the officers, those personnel receiving retired pay initially receive more than their last BMC. In contrast to the officers, however, the enlisted 20-year retiree initially earns less than the mean Census profile, even after adding

retired pay to full-employment earnings. This observation appears to be due to the BMC profile lying below the mean Census profile until about 25th year of service, or age 43. Under these circumstances, employers looking at the wage history of military separatees may be undervaluing the military experience of the separatees. Like the officers, after the 20th year of service, the BMC profile lies in the middle between the post-Service earnings due to employment and the post-Service earnings plus retired pay. The earnings profile comparisons again support the view that retired pay is a form of deferred compensation and suggest that the ability to maintain the current manpower force structure would be adversely affected by reduction in retired pay.

Figure XI-90
POST SERVICE EARNINGS



G. DISABILITY RETIREMENT SYSTEM. A detailed analysis of the disability retirement system was not conducted as a part of the Fifth QRM. However, several aspects of the system required examination.

1. Impact of Non-Disability Retirement Alternatives. First, the impact (if any) that the non-disability retirement alternatives might have on the computation of disability retired pay and the resulting impact on the overall cost of the retirement program were reviewed. Under current law, the initial calculation of a disability retirement annuity is determined by multiplying the basic pay (either final basic pay or HI-3 basic pay) by a multiplier. That multiplier is the higher of either the percentage of disability or the multiplier derived by applying the YOS formula. In both cases, it is capped at the 30-YOS multiplier. In most cases, the disability percentage is greater than the current YOS percentage. Consequently, the GORGO model uses average disability percentages in calculating future new disability retirement annuities. It was assumed that the same calculation procedure would prevail in the future. Since YOS calculations were reduced under the reduced multiplier or pre-30 YOS, the percent disability would still be used in the initial calculation. The average DoD disability retiree rating is about 60% of basic pay; in the current system this equates to 24 YOS. Past data indicate that the disability rating percentage would almost always exceed the YOS calculations, as most members retire before 20 YOS. The only real change from the current system would be that the maximum YOS cap would be reduced, if the YOS multiplier was reduced. This did not affect the disability calculations in the GORGO model. Therefore, it was assumed that reduced COLAs did not pertain to disability retirement annuities as well as survivor annuities. The Fifth QRM believes that assumption to be defensible. This is supported by the fact that Congress specifically excluded both DoD disability and survivor payments when a COLA cap was enacted as part of Public Law 97-253, 96 Stat. 970 (Table VII-1 and Section VI.B. of this volume).

2. Mobilization. The second aspect related to the category of disability retirees is mobilization. There are, as of the end of FY82, some 261,000 Service retirees who receive disability payments from the VA but who DoD categorized as non-disabled (Volume I, Section VII.F.) The fact that the retiree is receiving a VA disability payment is not the issue; rather, it is that the Services have not recognized these disabled retirees in the planning and programming of the retiree mobilization base. A logical question concerns the real potential for recall and use of these disabled retirees, depending on the nature and degree of disability. This is an important matter that requires further attention.

3. VA/Service Inflation Adjustment Interaction. The last area of review concerned the interaction between VA disability payment adjustments for inflation and the Service CPI adjustments. Uniformed Services annuities are linked to Civil Service annuities by law and normally occur in March of each year. On the other hand, VA benefits are not automatic in frequency or in the manner of adjustment. However, they are normally

timing of CPI adjustment and the method of offset, retirees whose retired pay is close to their VA benefit automatically switch from a VA benefit to a Service annuity (offset by the existing VA benefit that such retirees are entitled to receive) in March, if the CPI adjustment to Service annuities results in a total monthly Service annuity that is greater than the VA monthly compensation. In October, when VA benefits are normally adjusted, they may switch back to the VA benefit and receive Service retired pay if the new VA benefit exceeds the retired annuity amount. The cycle of an individual alternating between the two annuities may continue as long as the two are close in value. This situation creates a large and unnecessary administrative work load and associated cost that is not believed to be intended by the law. A synchronization of inflation adjustments timing within the Federal government and/or making the appropriate policy decisions regarding the proper intent of the law and the possible discontinuing of this practice would eliminate this situation.

4. Summary. The above discussion, albeit brief, does identify several aspects of the disability retirement system that deserve attention. First, it should be noted that most of the alternatives to the current system analyzed by the Fifth QRCM have only a marginal impact on the disability retirement system. Second, the difference in classification of a fairly sizable portion of retirees between Service and the VA, has implications for the mobilization base. This needs to be adjusted. Finally, the ability of disabled (in the VA evaluation) retirees to cycle between two annuities, i.e., VA benefits and Service retiree payments, was undoubtedly not intended by law and should be resolved.

H. SURVIVOR BENEFIT PROGRAM. The only element of the survivor benefit program which is impacted by a change to the current retirement system is the Survivor Benefit Plan (SBP) and the Reserve Component Survivor Benefit Plan (RCSBP). The SBP is designed to provide income protection for dependent survivors of servicemembers who die in retirement or on active duty after reaching retirement eligibility. Those who participate in the program can provide survivors with an income of up to 55% of gross retired pay. SBP is not mandatory, but for those who participate, it is a shared cost between the servicemember and the Government. Since the plan is contingent upon the amount of the monthly retirement annuity a participating retiree chooses as a base amount from which the survivor annuity is calculated, any change to the retirement annuity will result in a change to the future annuity of their survivors.

In general, a change in retirement can impact the following categories of future survivors:

1. Future entrants;
2. Current actives and reserves;
3. Current retirees; and
4. Current reservists not yet drawing retired pay.

Who will be affected depends upon the change which is implemented and the manner in which it is administered. In particular, the decision made as to whether a change will or will not be grandfathered will be the prime determinant as to which category will be affected.

An example of a change to the retirement annuity which was grandfathered and only effects future survivors of future entrants to the Uniformed Services is the calculation of the retirement annuity based upon the average high-three years of basic pay. This change effects all servicemembers who entered the force after September 8, 1980. Hence, the retirement and survivor annuities of these members will be less than current servicemembers and current retirees with comparable years of service. Another recent change to the retirement system was not grandfathered and effected current servicemembers. This was the rounding down of service over six months to the nearest month (rather than up to the next year) in the initial calculation of retired pay. A reduction in the value of retired pay for all new retirees resulted immediately, as well as a corresponding reduction in the value of the annuity of their future survivors.

The recent three-year temporary change in the cost-of-living adjustment (COLA) for non-disability retirees under age 62 had an advantageous effect on SBP. This change, which basically capped at 50% of CPI the increase of retired pay for FY83, FY84, and FY85 reduced the value of the retirement annuity and the survivor benefit premiums, but did not reduce the survivor annuity. Not only did the half-COLAs not apply to survivors, but the law stated that any future initial calculations of survivor annuities should be made as if the members received

full COLAs during their life times. Consequently, the benefits remained the same, but the premiums were reduced. If this temporary change were made permanent, along with the full COLA calculation, it is possible that, in a period of high inflation, a survivor could receive a higher monthly SBP annuity than the deceased members total monthly retired pay.

While a change to the current retirement system could impact upon the annuities of all future survivors of members of the Uniformed Services, the intent of SBP would only remain intact if coverage up to 55% of the elected base amount of the member's retirement annuity was provided. The member's contribution and base amount should be related.



MANPOWER,
RESERVE AFFAIRS
AND LOGISTICS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON D C 20301

October 20, 1983

MEMORANDUM FOR GENERAL COUNSEL

SUBJECT: Military Retirement Proposals

The Fifth Quadrennial Review of Military Compensation has evaluated a wide range of possible changes to the Military retirement system. Some of these retirement system changes have been evaluated to be deficient, either for manpower or cost considerations, while others are currently being viewed as having possible merit.

It is not necessary to describe those changes having merit in full detail. Conceptually, they all reduce the current retirement benefit level to be paid monthly to the retiree through a variety of mechanisms with the concomitant establishment of a payment, in lump sum, upon completion of twenty years of service. This lump sum payment is viewed as an early retirement trust fund withdrawal from the individual's total earned retirement benefit. Military members currently on active duty would probably not be governed by a revised retirement system; thus it would be applicable only to new entrants subsequent to enactment.

Commencing with FY85, the Department of Defense will shift funding of the retirement benefit from the current pay-as-you-go method to an intergenerational Trust Fund maintained by the Treasury based on the principles of accrual accounting. In concept, this DoD Retirement Trust Fund will generate funds sufficient to pay the retirement benefits of future retirees. The annual DoD payment to the Trust Fund will be calculated such that funds necessary to pay both the future early withdrawals and the monthly lifetime benefit of new accessions, who will become future retirees, are placed in the Trust Fund.

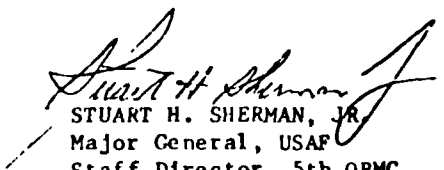
Questions have arisen concerning tax treatment of this early withdrawal lump-sum payment. The lump-sum payment could be as high as 3 times a member's annual basic pay (generally an E-7 or O-5 and thus ranging from \$50-75,000 in FY83 dollars). We understand that the Revenue Act of 1978 restored tax-qualified status to cash-or-deferred profit sharing and stock bonus plans under Section 401(k) of the Internal Revenue Code. There are also similar aspects in 403(b) and 457 dealing with educational and state/local governments respectively. In November, 1981, the IRS issued proposed regulations which clarified the conditions under which 401(k) plans could be offered and approved their use in conjunction with salary reduction agreements. Under a 401(k) plan, the employee has the option of receiving employer contributions in cash, or deferring them in a qualified trust. Alternatively, the employee may agree to a reduction in salary in exchange for an employer contribution

to the trust. In either case, amounts deferred and accumulated investment earnings are excluded from current income; they are taxed when distributed, and eligible for ten-year averaging treatment if taken as a qualifying lump sum. This raises the following question.

Could the early withdrawal portion of the retirement benefit be treated as subject to a qualifying ten year averaging under current law? If ten year averaging were considered appropriate, would it be better to include these provisions specifically in a legislative proposal? Is there any current law which would specifically preclude ten-year averaging treatment of this proposed lump-sum early withdrawal payment? Is there an even better way which could be logically included as part of a legislative proposal?

Another line of questioning focuses on the categorization of the lump sum early withdrawal. We do not believe it could be viewed as either a stock option or a profit sharing plan by their usual definition. Would the lump-sum early withdrawal payment be viewed under current law as deferred compensation? If so, would a member separating, either voluntarily or involuntarily, at some earlier (pre-20) years of service for instance, have a legal claim to some or all of this deferred compensation under current law? Or, again, would it be better to define the parameters of payment eligibility within proposed legislation?

Lastly, by establishing this payment as an early withdrawal from an individual's total earned retirement benefit which DoD will have been making annual payments for at least 20 years, what are the legal implications of a later Congressional proposal to eliminate the payment? Your opinion should contrast this to a similar payment being made from the DoD MPA (basic pay or Special and Incentive Pays) vice from the treasury retirement trust fund. Does the later place it on a more firm contractual like basis vice entitlement? Your answers would be appreciated as soon as possible. My point of contact is Captain Norman A. Mayo, USN, 756-1916.


STUART H. SHERMAN, JR.
Major General, USAF
Staff Director, 5th QRMG



DEPARTMENT OF DEFENSE
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November 1, 1983

MEMORANDUM FOR Staff Director, Fifth Quadrennial
Review of Military Compensation

SUBJECT: Tax Aspects of Military Retired Pay Proposals

This is in response to the request in your memorandum of October 20th for our consideration of several questions related to proposals being evaluated by the fifth quadrennial review of military compensation. These proposals are said to embody a variety of mechanisms to reduce future military retired pay costs. The principal device being considered to accomplish this purpose would involve an elective lump-sum payment in an amount as large as three times the amount of annual basic pay to be paid upon the completion of twenty years of service which payment would then be set off against the total retired pay benefits earned by the service member over his entire career. This memorandum addresses the federal income tax aspects of such an arrangement.

General Introduction

The Tax Equity and Financial Responsibility Act of 1982, Pub. L. No. 97-248, changed previous federal income tax law relating to the taxation of employer pension plans in the private sector. Those changes that altered the federal income tax treatment of employees' trusts may be of interest to the 5th QRM staff. The Act made three options available to employee-participants in an employees' trust that qualifies for tax-exempt status under the provisions of sections 401 and 402 of the Internal Revenue Code. Pursuant to this change an employee who participates in an exempt employees' trust may elect among the following options:

- (1) Payouts in the form of annuity payments which are taxed in accordance with the regular income tax annuity rules of section 72 of the Internal Revenue Code.
- (2) A lump-sum distribution which is taxed under the special income averaging formula over a ten-year period as authorized by subsection 402(e)(1)(c) of the Code.
- (3) Deferral of tax liability by "rolling over" payment distributions from the employees' trust into an individual retirement account.

A plan providing for the establishment by an employer in the private sector of an employees' trust to administer retirement benefits embodies certain advantages for both the employer and employees when the plan qualifies for tax exemption of the trust. Under a qualified plan the employer is entitled to take current deductions for his regular periodic contributions to the trust on behalf of his employees and the employee enjoys deferral of tax liability on contributions made by the employer to the trust on his behalf which remain in the trust corpus as well as favorable tax treatment of lump-sum distributions from the trust. On the other hand, if a trust established by the employer does not qualify for tax exemption, then the contributions he makes to the trust are fully taxed to the employee in their entirety as soon as they are paid out to the employee. The tax-saving opportunities available under the Act to the private employer are of no interest to the Defense Department, of course, but those that inure to employees may provide models for adaptation to new plans for administering military retired pay. This possibility is particularly promising with respect to the Act's provision for income averaging of lump-sum distributions of retired pay entitlements.

Trust Qualification Requirements

Subsection 401(a) of the Internal Revenue Code prescribes the provisions that a plan must include if an employees' trust established by the plan to

administer employee retirement benefits is to enjoy the favorable tax treatment made available by the 1982 Act. Those provisions that might be applicable in principle to a plan for the military are summarized below.

1. The plan must be for the exclusive benefit of participants or their beneficiaries with full distribution of corpus and accumulated income. IRC §401(a)(1) and (2).
2. The plan must comply with minimum participation standards. Thus participation can be conditioned on no more than three years of service and even then only if there is a non-forfeitable entitlement to accrued benefits. No maximum age for participation may be fixed (except in the case of special plans). IRC §401(a)(3)-(7). In addition, the plan must either cover 70% or more of all employees if all employees are eligible to participate or at least 80% of those eligible if at least 70% but less than all employees are eligible to participate. IRC §410.
3. An employee's accrued benefits from employer contributions must vest in accordance with any one of three alternative schedules. One produces at least 50% vesting after ten years of service, a second 100% vesting after fifteen years, while the third provides for 100% vesting after ten years of credited service. IRC §411.
4. The plan may not be "top heavy," that is, it may not operate to give preferential or more favorable treatment to corporate officers or highly paid employees.
5. The plan must insure nondiscriminatory social security integration. (The requirement is applicable only to plans beginning after 1983.)
6. Forfeitures may not be used to increase benefits that participants would otherwise receive under the plan. IRC §401(a)(8).

7. A plan that provides for payment of benefits in the form of an annuity must require that the annuity be a qualified joint and survivor annuity. IRC §401(a)(11)

8. The plan must provide that, in the event of merger or consolidation with another plan or transfer of assets to another plan, each participant will be entitled to a benefit after the merger, consolidation or transfer that is no less than his benefit was before that event. IRC §401(a)(12).

9. The plan must prohibit the assignment or alienation of benefits. IRC §401(a)(13).

10. The plan must provide for commencement of benefit payments within sixty days after the latest of the close of the plan year in which (a) the participant reaches 65 years of age (or the normal retirement age if earlier), (b) his tenth anniversary of participation, or (c) his service terminates. IRC §401(a)(14).

11. The plan must provide that, once receipt of benefits has commenced or service has terminated with vested benefits, such benefits cannot be reduced because of later changes in the social security wage base or benefits. IRC §401(a)(15).

12. The plan may not provide for forfeiture of accrued benefits because of withdrawals by a participant who has a vested right to at least 50% of those benefits. IRC §401(a)(19).

If a plan does not comply with these requirements (and others included in the Code that are not summarized here), the employees' trust provided for by the plan will not be tax exempt and therefore the tax advantages that inure to a qualified plan will not be available to participants.

Taxation of Lump-Sum Distributions

The regular rule is that for taxpayers on a cash basis (the customary method for individuals) income is reportable by and taxed to the recipient in the year in which he receives it. Under these circumstances a lump-sum distribution would normally be fully taxed in the year of receipt. But the recipient of a lump-sum distribution under a qualified employee trust plan attributable entirely to post-1973 participation may elect to have this distribution separately taxed in accordance with a special ten-year income-averaging formula to which single person tax rates are applied. To qualify for this tax-favored treatment the lump-sum distribution must be made on account of the employee's death, separation from service or attainment of age 59½. Independently of these statutory requirements, the Internal Revenue Service has ruled that a plan loses its qualified status if it provides for such distributions to employees who thereafter continue in employment. Rev. Rul. 56-693, 1956-2 CB 282.

Under the special ten-year averaging formula the lump-sum distribution is included in gross income but an offsetting deduction excludes it from adjusted gross income. IRC §62(11). An initial separate tax is then computed. This tax is equal to ten times the tax that would be imposed on a single taxpayer with income equal to (1) \$2,300 (the zero bracket amount) plus (2) one-tenth of the excess of the total taxable amount of the lump-sum distribution over the minimum distribution allowance.* The initial separate tax is then multiplied by the ordinary income part of the

* The minimum distribution allowance is an exclusion applicable to the first \$20,000 of the total distribution. It equals the lesser of (1) \$10,000 or (2) one-half of the total taxable amount of the lump-sum distribution (the full amount is taxable in the case of the military because military retired pay is non-contributory and hence fully taxable) for the tax year reduced by 20% of the excess of such taxable amount over \$20,000.

distribution (the full amount of the distribution in the case of future distributions to military retirees because only pre-1974 income from plans then in effect qualify for capital gain treatment) and divided by the total taxable amount of the lump-sum distribution (the entire distribution in the case of military retirees if military retired pay continues to be non-contributory) to obtain the separate tax that applies to the distribution. (The multiplier fraction embodied in the last preceding sentence may be ignored if military retired pay continues to be non-contributory in the future.)

Applicability of Ten-Year Averaging to the Military

The first group of specific questions in your memorandum relate to whether payments under an optional early withdrawal provision of a new retirement benefit plan being considered for the military could qualify for the special ten-year averaging that is applicable to lump-sum distributions under qualified employee trust plans. The similarities of the basic idea being contemplated for future application to military retired pay and the existing employee trust mechanism are apparent. However, three obstacles to qualification of the military proposal can be foreseen. First, it is obvious that the wording of the pertinent parts of the Internal Revenue Code that govern taxation of employee trust plans do not lend themselves to application to military pay and military personnel administration. Since the wording of the Code is strictly construed and since adaptation of unique military procedures and structural organization to commercial civilian enterprises would be difficult at best, tax qualification of a military plan under existing Code provisions would be doubtful. Second, and as a corollary to the first obstacle, at least three of the requirements summarized above for employee trust plan qualification, namely those numbered 3, 7 and 10, appear to pose problems for any plan that might be devised for the military. Third, as noted above, the Internal Revenue Service has ruled that a plan will not be regarded as qualified for favorable tax treatment of lump-sum distributions of accrued retired pay entitlements if the recipients have the option of continuing in service after receiving such distributions. For these reasons it is doubtful that a military plan could qualify under existing law.

However, this tentative conclusion, even assuming its ultimate definitive confirmation, should not be fatal. Legislation specifically approving a military plan and expressly providing for favorable tax treatment of early withdrawal of accrued military retired pay should not be too difficult to obtain. Congress has already indicated its desire to reduce military retired pay costs. Since the legislative proposal would embody this feature, Congress itself would have an affirmative reason to enact the bill. If this suggestion for seeking new legislation specially tailored to accommodate unique military needs and practices is pursued, it would be advantageous to seek the assistance of the Internal Revenue Service in drafting the bill. Though such an overture will slow action, IRS assistance at the outset will obviate future problems.

Characterization of Early Withdrawal

The lump-sum early withdrawal to be charged against the military member's total earned retirement benefit would not constitute deferred compensation. Enjoyment would not be deferred under the concept being considered by the 5th QPMC; indeed, just the opposite would result in the sense that partial enjoyment of the total benefit would be accelerated. Nor, of course, could the proposal possibly be viewed as involving a stock option or profit-sharing plan.

Characterization of early withdrawal is unimportant in itself. What is important is qualification under sections 401 and 402 of the Internal Revenue Code so as to trigger the tax-saving benefits offered by those provisions of the tax law. One of the principal obstacles to qualification is the existing requirement of twenty years of service as a prerequisite to entitlement to any military retired pay. Section 411 of the Code requires vesting of benefits under an employees' trust after either ten or fifteen years of service. In light of this requirement there are two options. Either the existing twenty-year military service qualification standard could be changed to bring military practice into conformity with the tax law or, preferably, the legislation DoD would submit could be tailored to make the tax benefits that are desired applicable to a minimum twenty-year military career.

In response to your inquiry about possible legal claims by members under current law, it is assumed this inquiry is made in the context of rights that might be created if the concept of early withdrawal is adopted in some form. The answer depends upon (1) the way in which the concept is implemented, that is, by administrative action or legislation, and (2) what provisions are included in the authorizing instrumentality. If an enforceable equity based on less than twenty years of military service is expressly provided for by legislation, a right would be created for a qualifying member. If, on the other hand, the completion of twenty years of service is continued as a prerequisite for any entitlement, then a member leaving service before that period of service would have no claim. (As observed above, the real question here is whether adherence to the twenty-year standard would preclude availability of the tax-saving benefits that are now applicable under existing law to lump-sum distributions as authorized by a qualified employees' trust plan.)

Effect of Future Elimination of Early Withdrawal Option

The final group of inquiries included in your memorandum deal with the consequences of possible congressional action at some time in the distant future to eliminate an early withdrawal feature that may be adopted in the near future as part of a new military retired pay plan. Answers to these inquiries depend in large measure on the specific provisions of the prospective plan, how it is established and what it provides for in terms of the mechanisms created. Because of these uncertainties only a short general answer is possible. If the funds that are regularly and periodically set aside by DoD or transferred by DoD to Department of the Treasury to implement a new plan are impressed with a trust, either expressly or by implication, then Congress probably could not forfeit such earned benefits retroactively. Congress could, of course, prospectively terminate any entitlement that provides for benefits to be earned in the future. Thus, if the plan now being considered is established in such a way as to create a trust for the funds in question -- either express or implied -- member entitlements to earned benefits probably could not be forfeited. In this respect individual rights to earned funds set aside in trust have a higher standing in law than does individual entitlement to

receive military pay and allowances provided for as current appropriations under a conventional appropriations act. But, as indicated, any plan could be terminated by Congress to prevent the accrual of future benefits.

Congressional action to attempt to forfeit earned entitlements is not likely in any case. Congress might well act at some time in the future to terminate a retired pay plan regarded as undesirable but in so doing would undoubtedly expressly provide for continued payment of earned benefits and even for "grandfathering" members already serving but not yet eligible to receive matured benefits under the established plan that is abolished.


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November 29, 1983

MEMORANDUM FOR Staff Director, Fifth Quadrennial Review
of Military Compensation

SUBJECT: Military Retired Pay and Individual Retirement
Accounts

This is in response to an informal request from Captain Mayo of your staff for amplification of that part of our memorandum of November 1st, subject: Tax Aspects of Military Retired Pay Proposals, that dealt with one of the options which are available to participants in an employees' trust. As noted in that memorandum, these options govern the manner in which participants may receive pension benefits under plans used in the private sector. The request was made with a view to exploring the possibilities that may exist for adapting one of these options to the receipt of military retired pay.

Under the option that was the subject of Captain Mayo's particular interest a retiring employee who participates in a federal income tax-exempt employees' trust may elect partial deferment of tax liability on his retired pay by "rolling over" (i.e., transferring) a portion of the payment distributions from the employees' trust fund maintained by the company for which he works into an individual retirement account. This option, as well as others referred to in the November 1st memorandum, became available in the private sector by reason of changes made in the Internal Revenue Code by the Tax Equity and Financial Responsibility Act of 1982, Pub. L. No. 97-248.

This option contemplates deferring tax on retired pay up to \$2,000 per year by having payments in this amount deposited each year directly into the retired employee's individual retirement account. Tax liability is deferred until the retiree eventually draws from the account at any time after reaching the age of 59½. (Withdrawals must commence upon attainment of age 70½.) The maximum amount of retired pay that may be deposited in the retiree's IRA

is \$2,000 per year because that sum is the limit prescribed by the Internal Revenue Code for such disposition without incurring a penalty for excess contributions to an IRA. This arrangement could be adapted to military retired pay procedures but for the requirement of the Internal Revenue Code that the retired pay to be deposited annually in an IRA must be derived from a qualified employees' trust. As pointed out in our earlier memorandum, to make this tax relief device available to the military, new legislation would be required to accommodate the peculiarities of the military retired pay system.

Another problem with this option from the perspective of military managers and a Congress that is preoccupied with reduction of future military retired pay costs is that it does not incorporate the large lump-sum distribution principle favored by both Government and individual military retirees. However, one of the other options referred to in the November 1st memorandum involves that method of pay-out and it can also be used in conjunction with an IRA by civilian retirees from private sector business. The incidents of this latter option will be outlined below to permit whatever consideration may be desired with respect to possible adoption by the military in modified form.

A civilian employee who receives a lump-sum distribution from a qualified private employer pension plan may, under certain circumstances, transfer without immediate federal income tax liability part or all of the distribution (not including whatever portion he contributed to the trust fund from which the distribution is made) to an IRA. I.R.C. §402(a)(5). Similarly the surviving spouse of a participant in a qualified pension plan may transfer to an IRA part or all of a lump-sum distribution that the spouse receives on account of the death of the participant. To qualify for tax exemption the lump-sum distribution must be --

- (1) invested in an IRA within 60 days from receipt by the employee or surviving spouse,
- (2) transferred to an IRA within one taxable year of the employee, and
- (3) paid to the employee when he reaches age 59½ or is separated from employment.

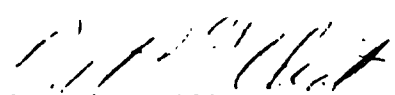
Certain other limitations that must be observed in the private commercial sector would have no applicability to the military. Thus the amount transferred to an IRA may not include employee contributions to the pension plan and, if

property other than cash is received from the plan, the same property must be transferred to the IRA. In addition, if during the tax year in which a lump-sum distribution is made an employee contributes to his account in his employer's pension fund an amount that exceeds \$2,000, the excess that is deductible is subject to the cumulative 6% excise tax. I.R.C. §4973.

A favorable provision of existing law should be noted that may counterbalance to some extent the restrictive effect of the requirements listed above (in the second preceding paragraph) for tax exemption qualification that have potential applicability to any plan the military might adopt. The full amount of a lump-sum distribution need not be transferred to an IRA in order to qualify as a tax-free rollover. This saving provision might be attractive to some retiring military members. Unfortunately, though, the favorable nature of this prerogative is itself qualified because the portion of the distribution that is retained by the retiring recipient is not eligible for the special ten-year averaging rule discussed in our earlier memorandum.

A final caveat may be appropriate. Reference was made in that memorandum to the rule adopted by the Internal Revenue Service (Rev. Rul. 56-693, 1956-2 CB 282) under which an employer pension plan loses its qualified status if the plan permits lump-sum distributions to employees who thereafter continue to work for the employer. It is not clear whether this rule is also applicable to distributions to IRAs.

In any event, the same general observation may be repeated here that was made in our November 1st memorandum. The current tax law, which was drafted without contemplating the military and its unique pay practices, will not in its present form permit accommodation of the military and changes in military practices that may be proposed for adoption. But whatever changes are jointly agreed upon by Congress and military managers must be the subject of legislation. The bill that will implement those changes may also be drafted so as to incorporate the corresponding adjustments that will be needed for the Internal Revenue Code. Advance coordination with the Internal Revenue Service to accomplish this purpose will be necessary. Thus the fact that the Code in its present form will not accommodate our new retired pay proposals, whatever they may be, should not be regarded as a serious inhibiting factor so long as the proposals do not significantly depart from existing basic tax policy.


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